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TEMPLE OF ANTONINUS AND FAUSTINA, ROME

From a Water Colour Drawing by S. Giampietri

R.I.B.A. Collection

FIG. 1.—BAB AMMAN. TRIUMPHAL ARCH

Roman Architecture at Jerash

BY M. A. SISSON, JARVIS STUDENT 1924.

THE ruins of the ancient Gerasa lie in a remote valley among the hills of Gilead forty miles by road to the north of Amman in the territory of Transjordan. By reason of their inaccessibility in the past these ruins, although of great extent and considerable magnificence, have been seldom studied; and as few records have been made and little information is obtainable, it is possible that some description of their characteristics and of the works which are being carried out on the site may be of interest.

The city lay on both sides of the valley called in ancient times Chrysorrhoas, through which the Wady Jerash flows at the bottom of a small ravine among poplars and oleanders, to join the Nahr-es-Zerka and eventually the Jordan. Long lines of columns and the remains of large buildings, half-buried under heaps of fallen blocks, are scattered over the stony slopes in all directions.

On the eastern side of the stream and within the ancient walls is the modern village of Jerash, which owes its existence to a colony of Circassian refugees settled there by the Turkish Government about fifty years ago. The ruins which once existed in that part have in consequence practically disappeared, the modern houses being built entirely of ancient materials. The larger part of the city and the principal public buildings occupied the higher western slope, and here the plan of the streets is recognisable and many buildings survive in good preservation.

To those approaching from the south a triumphal arch outlined against the sky and visible from far down the valley is the first indication of the city (Fig. 1). Passing the arch the road skirts a stadium in a hollow on the left and, bordered by the remains of tombs, enters the circuit of the walls by the south gate (see plan, Fig. 2).

Inside the gate is an irregular oval piazza, paved and still surrounded by an Ionic colonnade. From one side of the space flights of steps and a terraced forecourt lead to a temple on the hill above, on the slope of which is a large theatre. From the other side the principal street runs straight through the city to the northern gate. This great street, 40 feet wide and half a mile in length, was lined on both sides with colonnades, behind which were raised side-walks protected from the sun and rain. Since the greater part of the street has lately been cleared to the level of the ancient pavement, and as large numbers of the columns are standing, a good idea of its original state is obtained (Figs. 3 and 4).

A short distance to the north of the piazza this street is intersected at right angles by another. This second street, also colonnaded, runs down the hill from the west wall of the town and is carried across the ravine by a fine viaduct, still almost intact, which forms the principal connection with the eastern part of the town. Beyond the viaduct the street is lost under the houses of the modern village, but probably led to a gate in the eastern wall.

At the intersection of these two streets stood a tetrapylon, of which the four piers, ornamented with niches, remain: it seems to have been covered with a groined vault, and in form must have resembled the Arch of Janus Quadrifrons in the Forum Boarium at Rome.

On the left of the main street, farther to the north, is a large Nymphæum which served as a public fountain, and beyond this the Propylæa and monumental approach to the Great Temple (Fig. 6).

Opposite the Propylæa, its opening flanked by pylons of baroque character, is a small piazza, providing a space from which the entrance to the temple can be seen to advantage. Opening from this piazza was a narrower one lined with colonnades, and from the east end of this a street, descending by steps, crossed the stream by a bridge and, bending to the left, led to a gate in the east wall of the town.

By means of this street and the piazzas of increasing width a fine processional approach to the temple was provided, and that this was the chief purpose of the design is suggested by the fact that at a later date, when the temple was disused, an early Christian church was contrived in the piazza. The colonnades were incorporated to divide the nave and aisles, and the road, no longer needed, was blocked by its apse.

Leaving the piazza and proceeding along the main street, which overlooks the ruins of large thermæ on the right, a second tetrapylon is reached, whence a cross-street, also lined with columns, leads to the left into a small piazza in front of a second theatre.

Beyond the northern tetrapylon the main street runs without interruption to the north gate, in the vaulted length of which the road bends to the left and then mounts the valley towards the north among scattered ruins, sarcophagi and tombs. About a mile outside the gate are reservoirs from which water was brought to the city by an aqueduct.

Little is known of the history of Gerasa. Josephus records that the city was captured by Alexander Jannæus, its freedom being restored by Pompey. It afterwards belonged to the Decapolis of Peræa, and the population, judging from the inscriptions found, seems to have been largely Greek. Nicomachus the mathematician, who lived in the reign of Tiberius, was a distinguished native of the place.

From the character of the principal buildings it appears that the earlier city was completely replanned in its present form and rebuilding begun in the second century of our era, most likely after the formation of the province of Arabia by Trajan in A.D. 106, and it was at this time that its period of prosperity began. Gerasa was still a flourishing city of Arabia in the fourth century, and the remains of five or six large churches testify to its importance at a late period. It probably declined at the time of the Arab invasion, though there are indications that it may have been inhabited even after that event. By the thirteenth century it was entirely deserted, and remained so until recent times.

Since Transjordan has been under a British mandate much work has been carried out by the Government with a view to preserving and clearing the ruins. So far the more urgent work of conservation rather than actual excavation has been undertaken. Mr. G. Horsfield, the architect in charge, has since 1925 trained foremen and workmen, most of them Circassians from the district, and with the primitive appliances available, and in spite of the difficulty of obtaining materials, has not only repaired and strengthened those buildings in danger of collapse, but has succeeded in clearing the Temple Propylæa, the Nymphæum, the large theatre, and practically the whole length of the principal street. In many cases the fallen portions of the cleared buildings might be re-erected.

The plan of Gerasa belongs to the type, characterised by fine colonnaded streets, which is found in other Syrian cities, such as Damascus, Bostra, Philadelphia (Amman) and Palmyra. This type of plan differs from that of the western parts of the Roman Empire by the provision of wide colonnaded streets and bazaars in place of a central forum around which public buildings were grouped. It is associated particularly with Syria and with the Hellenised regions of the East generally. At Ephesus, for example, the wide colonnaded street of Arcadius leading from the theatre to the harbour is a conspicuous specimen of a later date, and such streets seem to have been characteristic of Constantinople; the tradition survives in the bazaars of these parts at the present day.

The plan of Gerasa is, on the whole, better preserved than other examples of its type, and displays various interesting qualities. It is more varied than the rigid "gridiron" of the neighbouring Bostra or of Timgad, and has been skilfully arranged to produce fine architectural effects. Instances of this intention are the impressive approach to the Great Temple, the interesting termination of the vista along the main street obtained by placing the Southern Temple obliquely on its axis, so that the steps and terraces are seen in perspective, the apt situation of the Triumphal Arch, and the general spaciousness and appropriate gradations in scale.

The buildings of the city are constructed almost entirely of limestone from the district. Several kinds were employed, ranging from a hard, close-grained stone, yellow or reddish in colour, used for columns, architraves and wherever finely finished masonry was required, to a soft and shelly conglomerate, generally plastered externally, which has weathered badly and is now in a crumbling condition in many places.

The masonry is laid without mortar and dowels are not always used, even between the drums of columns, and in consequence much dislocation has been occasioned by earthquakes.

Marble was sometimes employed, but only as a surface decoration and not structurally, and other imported materials are not common. It is an interesting fact, however, that the aggregate of the concrete of certain vaults is a hard black pumice, resembling clinker, which was doubtless brought from the volcanic regions of the Hauran.

Figure sculpture seems to have been rare, judging from the few remains already found, but conventional ornament is lavishly applied to architectural members.

The buildings of Gerasa appear to have been executed by local craftsmen in imitation of Roman models, and though in consequence the style and details are often

course, the general effect is one of richness and impressive scale.

It seems probable that the private buildings were small, since no remains suggesting any large insulæ like those of Rome or Ostia exist, and that they were constructed in the same manner as the modern houses of the district, with walls of ashlar or rubble and flat roofs of well-rolled earth laid on beams and wattle. The absence of roofing tiles, usually common on ancient sites, is evidence of the employment of this primitive form of roof, which successfully withstands the torrential rains of the wet season, and must have been in use from the earliest times, If this was the case the general appearance of the residential areas must have been very like that of the modern village.

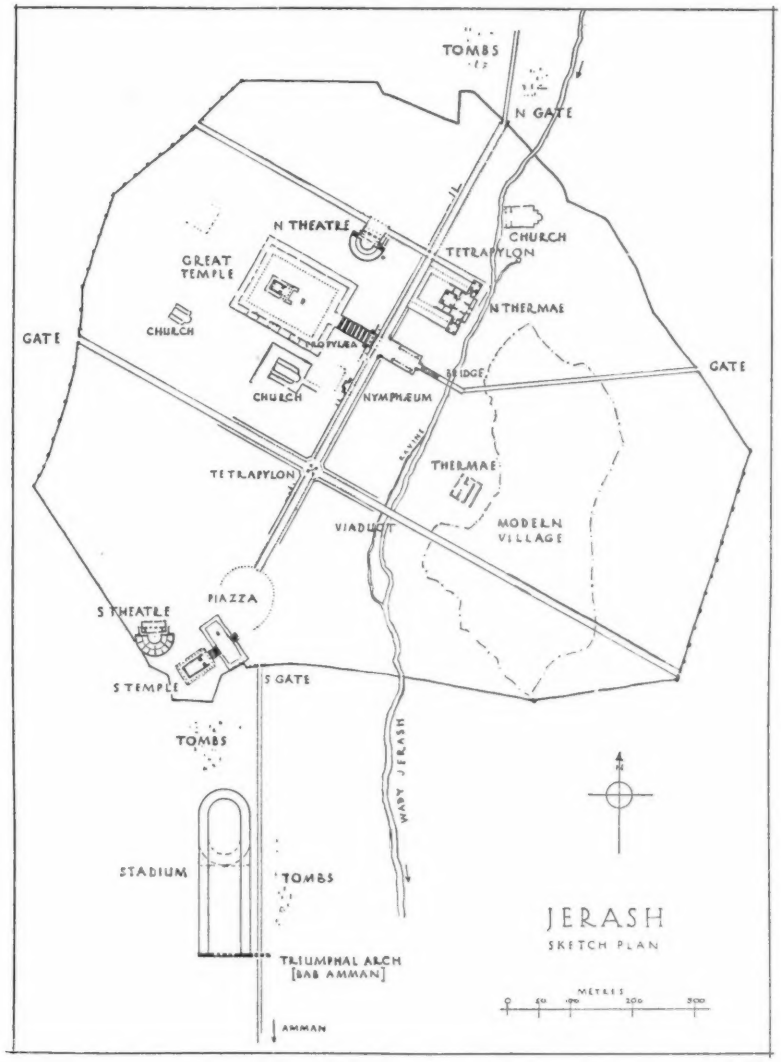

FIG. 2.—SKETCH PLAN OF JERASH

Having considered briefly the plan and general char-

acter of the city, it is convenient to begin a more detailed description of particular buildings by returning to the gates and walls.

The Triumphal Gate, or Bab Amman (Figs. 1 and 5), commanding the principal approach to the town, is pierced by a central archway 40 feet high, and on each side of this by a smaller arch surmounted by a niche, and is constructed of hard reddish stone finely jointed and laid without mortar or dowels. At a later date its width was increased by additions at each end, which are now much ruined. It is ornamented by four half-columns, a peculiar feature of which is the band of finely carved acanthus leaves, executed in a softer stone, at the base of their shafts.

From the superior execution of its details this arch appears to be one of the earliest buildings of the city, and its similarity to the Arch of Trajan at Timgad strengthens the case for attributing it to the time of Trajan or Hadrian. An inscription may be found when the fallen ruins of the upper part are examined.

The South Gate in the wall of the city resembles the Triumphal Arch in style and design, but consists of a single arch and is probably of the same date and contemporary with the planning of the existing city.

The North Gate, at the other end of the main street, also decorated with half-columns of the same style, apparently belongs to the same period. The long vaulted passage is bent in the course of its length to reconcile the axis of the main street with that of the road outside.

FIG. 3.—VIEW IN PRINCIPAL STREET LOOKING NORTH

FIG. 4.—DETAIL OF COLONNADE IN PRINCIPAL STREET

The city walls are very irregular in plan, and seem to have been intended rather as a protection against local raids than for serious frontier defence. The wall is 8 feet thick, faced with rusticated masonry and filled with earth and rubble; frequent solid rectangular towers project from the outer face. The general plan is similar to that of the Roman wall of Damascus.

The masonry of the wall is of a type common in the second century A.D., and resembles examples of that period in the neighbouring town of Amman.

The colonnades of the principal street vary in size and

workmanship throughout their length, and were evidently erected progressively during a long period. In the centre of the city they are of the Corinthian order, those adjoining the public buildings being higher and finer than the rest, and apparently of the earliest date. Towards the extremities of the street they become smaller, and those of the northernmost section are of the Ionic order. The columns are unfluted and composed of several drums. Where two sections of different height were connected, the architrave had more than one storey, were carried on the colonnades, producing an effect similar to that of certain Italian towns.

That this may have been the case, and that the upper storeys were largely constructed of wood, seems likely, since the pavement of the street has been calcined in many places in a way which suggests that large burning beams have fallen on it, perhaps during a conflagration which accompanied the final ruin of the city.

Of the two Tetrapylons which ornamented this street,

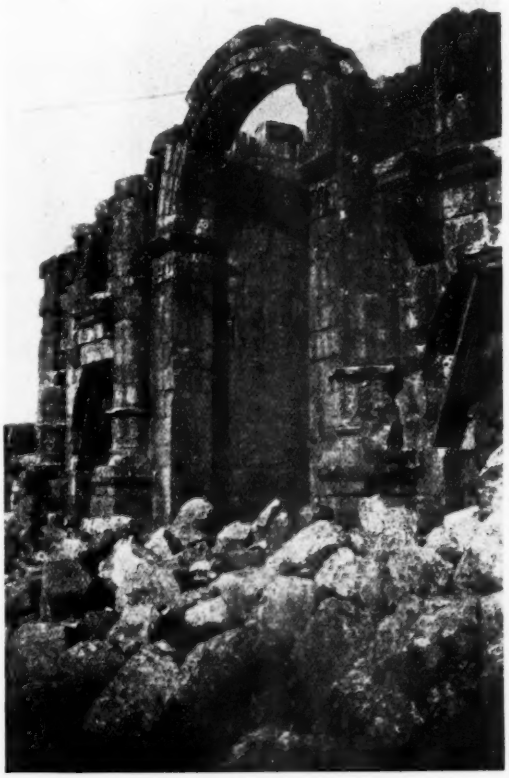

FIG. 5.—BAB AMMAN. TRIUMPHAL ARCH

FIG. 6.—PROPYLÆA OF GREAT TEMPLE

of the lower was carried on a corbel projecting from the shaft of the first column of the higher (Fig. 4).

It is noteworthy that, although long lengths of architrave remain in position, there is no trace whatever of frieze or cornice, in place or on the ground, and it is safe to assume that none existed. Some of the architraves show sinkings where beams have been supported.

Either a wooden roof covering the side-walks was laid directly on the architrave or it is possible that the front walls of the upper parts of the houses of the street, if these

the northernmost is remarkable ; the interior is circular and was apparently covered with a dome, penetrated by four stilted arches. Small holes at the springing of these arches suggest that tie-rods were employed. The four piers of the structure are standing and sufficient fragments are lying on the ground to make possible a reconstruction of the whole. On the north and south sides, facing the main street, the arches were flanked by detached columns standing on pedestals, and bearing an ornate entablature and pediment. In the face of each of the four pedestals

FIG. 7.—GREAT TEMPLE. VIEW FROM NORTH-EAST

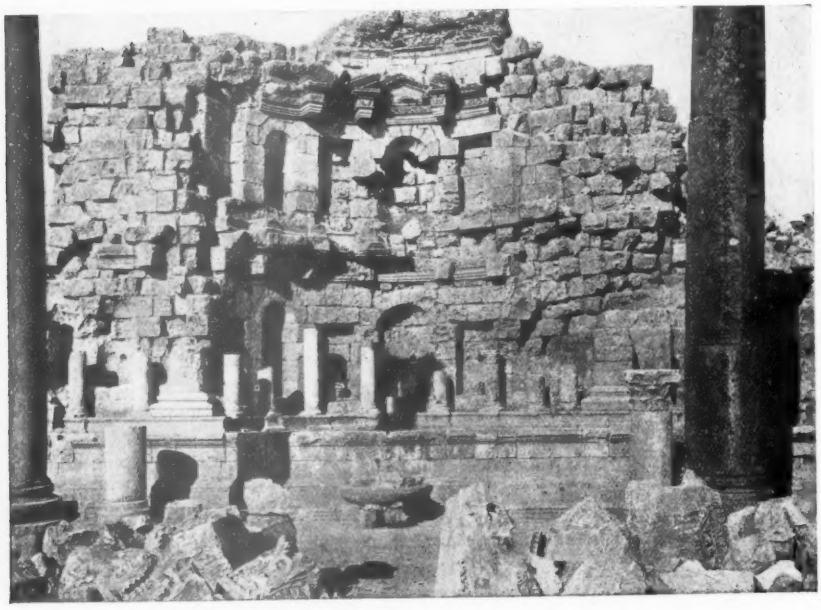

FIG. 8.—NYMPHÆUM

FIG. 9.—PROPYLÆA OF GREAT TEMPLE

FIG. 10.—INTERIOR OF S. THEATRE, LOOKING TOWARDS STAGE

is a mask from which water originally flowed. Above the entablature was an attic, of which the crowning cornice remains.

The plinth, archivolts and applied orders are of hard limestone, the other parts of soft stone originally plastered.

From the character of its detail, the structure appears to date from the second or the beginning of the third century A.D., and it is surprising to find a masonry dome such as that described employed at this early period.

The large Nymphæum (Fig. 8), which opens off the side-walk near the centre of the principal street, has been cleared of debris. It is semicircular in plan, and was covered with a semi-dome, the great niche thus formed being decorated with two storeys of small niches and applied orders. A large basin below served as a public fountain, the water from which flowed through masks in the front wall. Plug-holes between the niches show that the walls were once faced with marble, and the aggregate employed in the concrete of the semi-dome is the hard black pumice already mentioned.

Among the religious buildings of the city the most conspicuous is the Great Temple, which stands on high ground, commanding a view of the whole area, and is approached from the main street by Propylæa and steps.

On the street was a pedimented portal of four columns (Fig. 9); the entablature over the central intercolumniation, now lying on the ground as it fell, was arched in the manner of the well-known example at Damascus and that in the Palace of Diocletian at Spalato. This last may well have been built by an eastern architect, who used here a form already well known in Syria in the second century, to which period the examples at Jerash and Damascus can be ascribed.

Inside the structure steps lead up to a wall pierced by a large central door and by two smaller ones with ornate niches above. The bronze socket of one of the hinges of the great doors has been found.

Beyond the doors a great flight of steps 65 feet wide leads up the hill to the temple court. This court, 525 feet long and 345 feet broad, was surrounded on all sides by porticoes, and behind these were exedræ, carried on vaulted substructures as in the court of the great temple at Baalbek.

The Temple itself (Fig. 7) stands on a podium, and was designed to be hexastyle and peripteral, but only twelve unfluted Corinthian columns, 45 feet high, which form the eastern portico, were erected, these being the most essential to an appearance of completeness. Eleven of the columns remain standing, and the cella is well preserved, but filled with debris. On each side of the entrance doorway are small rooms containing staircases.

FIG. 11.—N. THERMÆ. VAULT OF NORTHERN HALL

No trace of a stone entablature remains, and in view of the good state of preservation of the rest of the building it seems likely that none existed. Probably the Temple was roofed with wood in the manner of the Tuscan temples described by Vitruvius.

The Southern Temple is well placed on high ground overlooking the piazza inside the South Gate, and closes the vista of the principal street.

From the piazza steps lead to a large forecourt surrounded by a wall ornamented with niches and pilasters, and from this a second flight of steps rises to the Temple. This was peripteral, with six columns at the ends and eleven on the sides, and stood on a podium about 100 feet long; the cella is fairly well preserved and is decorated inside with pilasters, whose capitals, being made of some more valuable material, have been removed.

The order of this building differed from others in the

city by the inclusion of a complete stone entablature. The architrave bore a Greek inscription, which does not, however, settle the question of the dedication of the building, and the frieze was richly ornamented with figures and acanthus scrolls. The work is coarse, but has fine scale, and from its character appears to be of a somewhat later date than that of the Northern Temple, perhaps the latter part of the second or beginning of the third century A.D.

In the Christian period several large churches, now almost buried under debris, were erected, which promise, when excavated, to be of great interest in relation to the history of church development. They are of basilican form and probably date from the fifth and sixth centuries. The concrete of the vaults of their apses contains a pumice aggregate similar to that used in earlier work.

The bathing establishments are among the most interesting structures of the city. The Northern Thermæ stand on the edge of the ravine and are separated from the principal street by a colonnaded court or palæstra. The building belongs to two periods : the central portion is the earlier and appears to have consisted of three vaulted halls, though the interior is so filled with enormous blocks from the fallen vaults that the plan cannot be exactly determined.

Subsequently additions were made to this building, including three square domed halls, a large hall on the west side, and smaller halls of the same type at the north and south (Figs. 11 and 12). Two of these are partly ruined, but the northernmost, 55 feet square, retains its dome and is of unusual interest. Four semicircular arch-rings springing from wide square abutments support a hemispherical vault which springs from the same level (Fig. 11).

This type of construction appears to be the precursor of the dome on pendentives, and these structures at Jerash are probably the earliest known examples of a hemispherical vault or dome of masonry over a square plan. Their date is uncertain, but the earlier part of the building probably belonged to the second century A.D., and if these halls were added in the third, or even fourth, century they would still antedate other examples.

The impressive ruins of other Thermæ, resembling the earlier portion of those described above, exist to the east of the stream. The building consists of a series of parallel barrel-vaulted halls, one of which is in almost perfect preservation.

The walls of both Thermæ were faced with marble inside up to the springing of the vaults and plastered externally.

Gerasa was well provided with buildings for purposes of public amusement. Near the South Gate and built into the slope of a hill is a large theatre, 350 feet in diameter, capable of holding approximately 5,000 spectators. The amphitheatre is well preserved and divided by a single *diazoma*. The lower part, containing 14 rows of seats arranged in four *cunei*, is complete, while the upper part retains 16 rows divided into eight *cunei*. The circumference is much ruined and it is impossible at present to discover whether a colonnade or further rows of seats existed. The interior has been cleared (Fig. 10) and the stage with the fallen remains of the *scena* brought to light. The *scena*, penetrated by three doors, was decorated with certainly two and perhaps three superimposed orders. Many columns and two pieces of architrave of the first order remain *in situ*, and enough of the second has been found to allow of reconstruction.

No other ancient theatre retains so much of the columnar decorations of its stage.

Fig. 12.—N. Thermæ. Detail of Vault in South Hall

The smaller North Theatre is unique in several respects. It is designed in conjunction with a small colonnaded piazza, on one side of which is a vestibule with three doors leading from it to the back of the stage. As the interior has not yet been cleared, the exact form of the stage and *scena*, which has fallen, cannot be determined. The amphitheatre, containing 17 rows of seats, is remarkable for the steepness of its slope, and the wall behind the *diazoma*, which is unusually high and decorated with niches, increases the effect of depth. A ramped vaulted passage inside the circumferential wall of the amphitheatre leads to the highest seats.

The interest of this theatre lies in the probability of its

having been a roofed structure. It is recorded that buildings designed for musical performances—for example, the Odeum of Herodes Atticus at Athens—were roofed, but in the absence of material evidence this has generally been considered incredible on account of the great spans involved. Here, however, sinkings exist on the top surface of the outer wall of the auditorium which can only be explained by supposing that roof-trusses were fixed in them. They bear no relation to the usual method of fixing masts supporting a *velum*, and their direction shows that if trusses existed their direction was parallel to the front of the stage. How the covering of this space was accomplished is as yet an unsolved problem, but it is likely that supplies of large timber were available, since Gilead was until recent times celebrated for its oak forests.

If, as the evidence seems to show, this theatre was roofed, there can be little doubt that it was designed for the performance of music.

Outside the South Gate, and near the Triumphal Arch, is a large hollow, now cultivated. Exposed portions of the surrounding wall show this to have been a stadium over 800 feet long and 180 feet broad. The northern end is semicircular, and four rows of seats on a high podium surrounded the area except on the south, where a wall with four openings still remains. At a period subsequent to its formation a transverse wall was inserted, reducing the extent of the stadium, which then became an oval amphitheatre at the northern end. As a result the ruin has been mistaken for two distinct buildings, the northern part being called a circus and the southern a *naumachia*, but the dividing wall is quite clearly a later addition and the original seating runs through below it. It seems unlikely that the whole building in its original form was a *naumachia*, as the water supply of the town must have been inadequate for such purposes, and the aqueduct said to have supplied the so-called *naumachia* is nothing more than an irrigation channel supplying the now cultivated interior of what was once a typical circus designed for chariot-racing or other sports.

It is to be hoped that eventually Gerasa will be completely excavated and its buildings restored where possible, thus revealing the appearance and plan of an ancient city which is one of the best preserved of its type, and which, with the exception of the small area occupied by the modern village, is unencumbered by later buildings.

As the decay of the city was gradual, little sculpture and few portable objects are likely to be found, but owing to the varied nature of its buildings and the peculiarities of their construction, further excavation, restoration and detailed study should be important to the history of architectural development.

The survival of these grandiose ruins in a remote province on the confines of the Roman world is striking evidence of the uniform standard of culture prevailing throughout the Empire, but the means whereby so large and prosperous a city existed in a country neither fertile nor well watered, and the reasons for its evident importance, though now obscure, may eventually be revealed by excavation, by analogy, and by historical research.

[Figures 1, 7, 8, 9 and 10 are reproduced by courtesy of the British School of Archæology in Jerusalem.]

Architectural Design in Concrete*

BY J. MURRAY EASTON [*F.*].

Building in concrete touches the imagination of the present age as no other form of construction does. It conveys that sense of directness and reality which belongs to building in the antique and mediæval ages for, as a poor and work-a-day relation of masonry and brick building, it has escaped the degradation of values which has come upon these materials. They have tended to become coverings against the weather and symbols of gentility for steel frames, and desirable as such functions may be they do not help to make great architecture. Moreover, concrete buildings present opportunities for the carrying out of conceptions in plastic form which have not hitherto been possible. A new book on the subject of architectural design in concrete is therefore assured of appreciative and critical readers, and the essay by Mr. Bennett, together with the very fine series of photographs compiled by Mr. Yerbury, will not disappoint them. The essay is a very short and concise one and does not attempt to do more than state a few general principles and problems of concrete design and provide a running commentary on the plates. Beginning with a resumé of building conditions in previous ages, the author finds in modern building a parallel with Roman work in its use of unskilled labour directed by highly technical minds and in its tendency to separate decoration from structure. He has sound comments to make on the basis of design of modern buildings, and his brief analysis and criticisms of the buildings illustrated in the plates are illuminating.

A slight complaint must be made against the excellently selected illustrations, that they are in no very clearly discoverable order and that there is no index, and it is unfortunate that the excellent restaurant at Cologne which forms the cover illustration is in reality a steel cantilever structure, in which concrete plays a minor part. Beyond these facts it would be hard to imagine a more judicious selection of buildings or better photographs.

From the æsthetic standpoint there can be no question of the pre-eminence of French and German designers in reinforced concrete. Such works as the Centennial Hall at Breslau and the churches at Le Raincy and Vincennes sufficiently indicate the resources of this material. They belong to the finest kind of architecture — that in which space is conceived as the primary thing and structure as a boundary to spaces. In works of this kind the exterior is expressive of the interior and, more important, it is expressive of a unified and impressive interior. This is not to say that any of these buildings are free from defects, and the author's criticism of the columns at Le Raincy is well founded. They certainly do seem to penetrate rather than support the roof. That defect focuses our attention on the mushroom construction used in the Shredded Wheat Factory at Welwyn by De Soissons and Kenyon and illustrated on plate LVIII. It has been developed largely in America and Germany, but unfortunately the London County Council has not recognised its existence and it cannot be used within its area of control. Its employment eliminates one of the most irritating and practically disadvantageous features of reinforced concrete construction —the presence of deep beams. Such beams are a constant source of trouble in modern buildings where pipes and ducts of all sorts play such an important part.

Critics have frequently raised the objection that concrete is no more plastic than any other material since it depends, generally speaking, on timber moulds and centering for its ultimate form. This cannot be denied, but it is a rather superficial way of regarding the matter. From the creative point of view the plastic qualities of a material depend less on how it is held up when it is soft than on how it holds up when it is hard, and such structures as the Einstein Tower sufficiently show how unrestricted its use can be. Nevertheless, that work, remarkable and suggestive as it is, suffers from incomprehensibility. It seems to be trying to express subtleties which belong to another medium. A great deal of the satisfactoriness of concrete structures depends upon their clear expression of physical loads, and fortunately there are probably very few naked reinforced concrete buildings which have not been designed with an almost single eye to functional efficiency. In this freedom from personal idiosyncrasy is to be found one of its greatest assets. All those who are not enslaved by prettiness, or too much influenced by the value of those associated ideas which traditional motives lend to imitative architecture, are conscious of this cleanness and freshness. Poets, painters, and writers and the ordinary man share the same conscious or sub-conscious feeling, that the significant buildings of to-day are those which are shaped in strict accordance with physical laws rather than with the fancy of architects.

Naturally, concrete building can be completely concealed and deprived of its significance just as steel framed buildings most generally are. There is nothing whatever to be said about many of the American examples shown, except that presumably the necessary funds were lacking to enable them to be carried out in stone. This leads on to the question of building in concrete blocks and of surface treatment. Of the former the author wisely says little, for obviously a concrete block cannot show any advantages other than economic over a block of stone and it is little likely to be as good. But the question of the surface treatment of *in situ* concrete is of the greatest importance and some useful comments are made on this. There can be no question that the only method of giving real value to concrete is to expose its aggregate rather than the skin of fat cement which naturally comes to the face of the moulds. In certain instances or for certain parts of a building it is often possible to provide special aggregates on the surface which are cast with the structure and do not share the objectionable

* *Architectural Design in Concrete.* By T. P. Bennett, F.R.I.B.A., Hon. F.I.O.B. Photographs compiled by F. R. Yerbury, Hon. A.R.I.B.A. London : Ernest Benn Ltd. 1927. 30s. net.

qualities of rendering or plastering, and where such a method is possible excellent surfaces may be obtained by bush hammering or sand blasting. In Germany much of the exposed concrete is given a tooled surface by hand, a mason's comb being used. The author outlines the principal methods adopted to provide a good surface, and his warning against the seemingly easy method of washing down with acid is well founded, for apart from the risk that is run of steel reinforcements being attacked, the acid treatment seldom produces good effects.

If there still remains to be written the book which will bridge the gap between the purely technical standpoint of the concrete engineer and the more general requirements of the architect, this volume constitutes by far the most useful and stimulating work on the subject that has yet been published.

Reviews

THE WORKS OF SULTAN BIBARS AL-BUNDUQDARI IN EGYPT. *By K. A. C. Creswell, Attaché Libre de l'Institut Français du Caire. (Extrait du Bulletin de l'Institut Français d'Archéologie orientale, T. xxvi.) le Caire. Imprimerie de l'Institut Français d'Archéologie orientale.* 1926.

An aspect of history that is not often brought to the notice of Englishmen is dwelt upon by Mr. Creswell in his book, *The Works of Sultan Bibars al-Bunduqdârî in Egypt*, in connection with the Mongol invasion in the beginning of the thirteenth century A.D., when a large part of the Muhammadan world was overrun by nomad hordes, and refugees from the conquered territories fled westward into Egypt, carrying with them the specific arts of the lands from which they had been driven.

A series of battles in which the Egyptian army, under Bibars, defeated the Mongols in Southern Palestine checked their advance, and presented an opportunity for the victorious general to assume the title of Sultan in place of his murdered predecessor, Qutuz, in October 1260. Having violently possessed himself of supreme power, Bibars at least knew how to exercise it in the defence of his realm, and, incidentally, in the defence of the whole civilised world against the uncivilised Tartars, who had conquered, not to rule, but to exterminate, in pure love of killing for killing's sake. The construction or repair of a certain number of fortresses in Syria was an almost inevitable task in view of the continuance of the Mongol menace and the persistent struggles of the Crusaders to regain lost foothold in the Holy Land, and Mr. Creswell has illustrated several examples of the Panther rebus of Bibars upon buildings not only in Egypt but in many outlying places. This armorial badge has been sometimes mistaken for a lion, but the association of the Turkish word *bars*, a panther, is suggested as being more probable. The mnemonic value of such punning badges in the age of heraldry is well known, the pictured beast suggesting the name of the chieftain whose badge it was. A pair of panthers affronted are to be seen in the tympanum of a window arch in the Madrasa of Sultan Bibars described in the first section of the book. This building, which is now a fragmentary ruin, was painted by David Roberts in 1839, and by an unknown artist in A.D. *c.* 1850. Both drawings agree in shewing that it possessed a stalactite portal, " the earliest in Egypt and thirty-five years earlier than the earliest existing example, that of the Madrasa-Mausoleum of Zeyn ad-Dîn Yûsuf, built 697 (1298)."

The stalactite portal, which was afterwards made a characteristic feature of Egyptian architecture, was not original in Cairo, for Syrian examples are quoted which are known to have been constructed at a considerably earlier date, two bold and beautiful examples from Aleppo being illustrated on Plate VI. In these examples the arrangement of superimposed niches and brackets is already mature and thoroughly systematised, so that the origin of the idea of superimposition of niches and brackets is not traced to its germ. Mr. Creswell hazards the opinion that the use of the stalactite portal " was derived from portals such as that of the Beyt al-Khalifa at Sâmarrâ, where a deep entrance bay is covered by a semi-dome on a pair of squinches. Given this scheme, it is obvious that, on its importation at a later date into Syria and subsequently into Egypt, the squinches would be replaced by the device there in use for supporting domes."

With the thoroughness which his readers have learned to expect from the author, Mr. Creswell adds a tabulated chronological statement of monuments in which the stalactite portal was used and of approximately contemporary buildings which did not incorporate this delightful and distinctive feature of saracenic architectural composition.

A large portion of the book and several of its photographic illustrations are devoted to the description of the Mosque of Bibars, begun in March 1268 on the Sultan's own polo ground beyond the Huseynîya suburb. The misuse of the mosque as a military depot has left it in a semi-ruinous condition, but enough remains to show that its design contained an admixture of Syrian and Egyptian decorative traditions. The ornamental stalactite recesses are square-headed and the niches are of two distinct types, those on the main entrance having curved outlines and those on the north-eastern and south-western entrances having angular but straight line formations.

Keel-arches and curving pointed arches are also used in different parts of the building. An interlacing ornament on a bold scale which occupies the spandrils of a niche inside the main entrance of the mosque is compared with other examples of similar character at Aleppo, Konia, and Jerusalem, and Crusader influence is to be seen in the sloping tops of buttresses on the exterior of the mosque wall. In the almost rainless climate of Egypt the sloping top is an anomaly. Chevrons and pulvinated voussoirs on some of the arches are other features common to the works of both Crusader and Saracen.

The comparison of old sketches with more recent photographs of some of the buildings described has been made the occasion of a word of warning by the author, who shows the danger of trusting even to apparently faithful representations made by artists. The prejudice of the European for certain arrangements of masses has asserted itself in some cases to the exclusion of verisimilitude, and two different artists selecting the same viewpoint do not necessarily produce on paper recognisably similar records of fact.

A map would have been of great value to readers unfamiliar with the Near East and its place names. It is possible to confound Akka and Akkar without a chart.

WILLIAM HARVEY.

INDIAN ARCHITECTURE. *By E. B. Havell. 2nd Edition*, 1927. *Small quarto. John Murray.* 42*s.*

The second edition of this work, except in its final chapter entitled "Fourteen Years After," does not differ materially from the first issue in 1913, but the importance of the Indian contribution to the history of architecture is now realised so much more fully than it was then as to justify a reconsideration of the subject and of Mr. Havell's contribution towards a clearer comprehension of the practice of architecture in India during fifteen centuries.

This book does not take the form of a history, but it is a most informative commentary on the development of style and on the gradual changes due to external influences. Its main contention, namely, that almost all the non-European buildings in India can claim to be of Indian provenance, can only be accepted with certain reservations.

India has always been markedly eclectic in its art, and has accepted with avidity the ideas of those other nations with which it came in contact. We may agree with Mr. Havell that the absorption of these ideas was complete, and that an ultimately consistent technique usually resulted from this, but when he goes further and claims that the Indian at once started to improve on the new elements he took over, his interpretations are open to question.

Mr. Havell not being an architect, does not always appreciate architectural values, though sometimes making very telling parallels showing an acute perception of these. He is apt to acclaim as fine examples, some which the architect regards as confused by an imperfect harmonisation of the newer with the older methods. For instance, many of the earlier attempts to combine the Moslem arch with the Indian trabeated and bracketed construction are clumsy and inharmonious; and again, when he comes to balance the "Persian" and Hindu contributions to the Mogul Tombs and Mosques, he, by overweighting these structural expedients as against the imaginative conception, tips the beam much too far in the direction of the Hindu.

Admitting every statement made in regard to the way in which "Persian" conceptions were re-modelled by the Indian craftsmen, and accepting the care with which every qualification has been noted by our author, the outstanding fact remains that the general conception in the cases of Akbar's Mosque at Fatehpur-Sikri, the Taj Mahal and the tomb of Itmad-ud-Daulah is definitely Persian, while other contemporary buildings at Fatehpur-Sikri are almost as definitely Hindu, and the tomb of Sher Shah, as Mr. Havell rightly says, shows borrowed elements absorbed into a consistently revised Hindu treatment.

In the claim for Indian inventiveness, an interesting point is made by questioning whether the pointed horseshoe arch did not first travel from this country westward and then subsequently return to the home of its birth. Many early examples of this form are found in Buddhist buildings, and the illustration of the seventh century "sun window" from Ajanta is a very striking one; though this is not a structural arch, being cut from the solid rock, it has the characteristic form. While we may be prepared to accept the possibility of these examples having influenced Arab design in its early stages, the structural arch was so definitely excluded from Indian building technique during many subsequent centuries that when it came back again it was only gradually brought into harmony with Hindu architecture, and even to this day finds no place in the vernacular style of South India.

Mr. Havell throughout makes his points with clarity and vigour, and whether one agrees or disagrees with his conclusions, his wide knowledge and personal vision make his book most interesting to the reader. One typographical error we hoped would have been corrected in this edition: the Sikandara Bagh Gate (Plate CVI) is at Lucknow, not at Agra, as printed.

H. V. LANCHESTER [*F.*].

MEDALS AND MEDALLIONS RELATING TO ARCHITECTS. *By Robert James Eidlitz.* 4*o. New York*, 1927.

This sumptuous volume, presented by the author, is not only a useful contribution to numismatic literature in general, but will also be of considerable value to those interested in plastic art. It contains descriptions of over 1,100 medals and medallions executed in honour of some individual architect or to commemorate the completion or anniversary of some important building, and no less than 1,000 illustrations, for the most part "true-to-scale," though some have of necessity been reduced. "Architect" is interpreted in the widest sense, for the short biographies include such names as Paxton, Benson, Brunel and Montgolfier. Englishmen and their works are generally well represented from Wykeham down to Francis Bedford (St. George's, Camberwell, 1822), Thomas Rickman (St. Peter's, Birmingham, 1827, which shows him in the guise of a Greek revivalist), and Philip Hardwick (Euston Portico, 1838).

The head of Sir John Soane, by W. Wyon, A.R.A., on the Soane medallion bears comparison with any of the later medals and medallions illustrated. Acknowledgment is made to the R.I.B.A. for permission to reproduce an illustration of the Richard Phené Spiers bronze.

Mr. Eidlitz might with advantage have included some of the "Building Tokens" issued by London, Bath, Coventry and other cities in the last decade of the eighteenth century (*vide* Mowbray A. Green's *The Eighteenth Century Architecture of Bath*, pp. 228-37 and plates).

The method of indexing is unfortunate. E. M. HICK.

FRONTISPIECE.

The frontispiece in this issue is reproduced from a water-colour study, with brilliant colouring and clever light and shade effect, by an Italian artist, Chev. S. F. G. Giampietri [*Hon. Corr. Mem.*]. The view is in Rome looking South-eastward along the Clivus Sacer, or gradient forming part of the processional Sacred Way. In the left foreground is the podium of the Temple of Antoninus and Faustina, now the church of S. Lorenzo in Miranda. Just beyond is the ruined Heroön, or shrine of Romulus, now serving as a vestibule to SS. Cosmas and Damianus; and in the far distance looms the Renaissance façade of S. Francesca Romana, built partly over the site of the Temple of Venus and Roma. An interesting glimpse is thus afforded of that part of Rome between the Forum and the Colosseum, which lies beyond, and shows the link between ancient pagan and modern Christian Rome. H. V. M. R.

Modern Plaster Work

BY PROFESSOR A. P. LAURIE.

I do not know what is the experience of English architects, but in Scotland we are having a great deal of trouble with modern plaster, especially on housing schemes. Ceilings are falling down, plaster is cracking, and is sometimes found to run like sand when the outer skin is broken, and builders are being driven more and more to use substitutes.

All that is known to-day about plaster is most ably summarised by Dr. Stradling in " Lime and Lime Mortars," the pamphlet issued by the Department of Scientific Research, and should be in the hands of every architect, but it is evident that further research is necessary on what actually takes place when a lime-sand plaster sets. We used to be satisfied with the statement that the setting was due to the combination of the lime with the carbonic acid gas in the air. We now know that this is a very slow process and for a long time is quite superficial, merely affecting an outer thin skin, and we have to look elsewhere for the explanation of the preliminary setting.

Modern chemists are much intrigued by the properties of colloids, or as we may popularly call them, jellylike bodies, and apparently slaked lime putty must be regarded as belonging to this class of bodies.

It is not merely a mixture of hard particles with water. During slaking a swelling of the mass takes place owing to dispersion of the slaking lime into very minute particles surrounded by a solution of lime in water, and probably when kept as a lime mud a slow change is taking place which is converting it more and more into a jellylike substance. Final setting when mixed with sand is probably very similar to the setting of Portland cement, the jellylike mass setting round the particles of sand.

It is in this direction that we may find an explanation of the old practice of " running " the lime and keeping it for weeks and months as a lime putty before using. The Greeks, the finest plasterers in the world according to Vitruvius, not only kept the lime putty for a long time, but repeatedly beat and pounded it. They treated the mortar the same way, and again pounded it when laid on the walls. These mechanical processes probably have much to do with producing the proper condition.

In Scotland to-day, when English or Irish lime is used, it is usually run into a putty, but Scotch lime is usually slaked and mixed with a certain proportion of sand at once. The Scotch lime shell seems to take much longer to slake completely than English or Irish lime shell, and consequently the more careful builders allow the mixed lime and sand to " sour." That is, they keep it slaked and mixed with a certain proportion of sand for some time before using. When this is not done the slaking goes on within the mortar. This sometimes produces cracking, but at other times results in a plaster of a spongy consistency like pumicestone. I have been able experimentally to reproduce both conditions by trial, but am not certain in which of any given pat of mortar it will happen. This spongy condition is worse than cracking. The plaster never sets really hard and never keys firmly on to the lath.

There seems to be no recognised percentage of lime which is necessary to make a strong plaster. An excellent hard old plaster I analysed contained only 11 per cent. of lime. The plasterer adds lime until he gets a proper working consistency, but this depends on the property of the lime, called plasticity. In America plasticity has been specially studied and apparatus designed for measuring it, a very plastic lime enabling more sand to be used. Probably good setting and plasticity are closely connected, and therefore one lime might require less sand than another to form a hard plaster.

A specification of the Ministry of Health in Scotland requires one part by volume of Scotch shell to three parts by volume of sand, but nothing is said about the purity of the lime shell or what volume it should occupy. It is true that in another part of the specification it is stated that the shell must be of the best quality, but there is a tendency to think that the volumes 1 to 3 are the only things that are of importance no matter how inferior the lime shell.

The Ministry of Health would be well advised to get their specifications revised by the Board of Scientific and Industrial Research.

The following figures for the breaking strain of mortar are given by Lunge and Keane in their technical methods of chemical analysis, for different proportions of parts by weight of sand and lime. " Breaking strain " with 1 part by weight of lime mixed with 3, 4 and 5 parts by weight of sand in lbs. per square inch, were respectively 43-57, 57-71, and 50-64. It will be noticed that the mortar with the highest proportion of lime is not the strongest. Evidently there is a certain proportion which is best, and 1 to 5 is not too weak a mixture.

This agrees with my own experience. When the percentage of lime falls below 10 per cent. there is a rapid diminution of tensile strength.

To deal more especially with the problem of ceilings, many of our Scottish builders object to the sawn laths which are replacing the old split laths. They say that the sawn lath, owing to the cutting across of the wood cells, absorbs and loses water much more quickly than the old split lath and so breaks the key formed by the plaster with the lath. This is well worth investigation.

The next important matter in the plastering of ceilings is the addition of a sufficient quantity of hair. Very often the amount of hair is not present in the quantity required by the specification, the hair is adulterated with vegetable fibre and is itself of inferior quality.

I find the best way of estimating the hair is to crush the plaster, treat it with weak acid to dissolve the lime, and then float out the hair by mixing with a solution of very soluble salt of sufficient specific gravity to float the hair, which can then be collected and weighed. It can then be examined for vegetable fibre and, if necessary, its tensile strength measured.

The rules to be followed are, in my opinion, as follows:—See that the laths are properly spaced, neither too near nor too far apart, and are of standard thickness. Use split and not sawn laths. Insist on the proper slaking of the lime putty, and do not allow it to be used until it has

matured for several weeks. Do not allow the lime in the mortar to fall below 10 per cent. in any part of the plaster. Insist on thorough mixing and working of the mortar and proper distribution of the hair. Require the amount of hair not to be less than the usual specification: 10 lb. to the cubic yard. I have found it as low as 2 lb. or even ½ lb. to the cubic yard. See that only hair, and hair of good quality, is used. The hair from the tannery works, owing to the more powerful chemical agents used to-day to remove it, seems to be weaker then the old hair and requires washing. Clipped hair is best.

Correspondence

LEAGUE OF NATIONS BUILDINGS AT GENEVA

266 *St. Vincent Street,*
Glasgow, C.2.
7 *December* 1927.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—In connection with the recent exhibition of the British designs submitted in the competition for the League of Nations buildings at Geneva, some comments on the general situation from the author of one of those "rejected addresses" may not be without interest. That the comments are indeed general, and in no sense critical of the designs on view, will be understood from the fact that the writer was unable to visit the exhibition.

One's first reflection is with regard to the unfortunate absence of any one British competitor among the 27 selected for mention, with an enquiry as to possible causes for this general failure. In a contemporary, Mr. Milburn has already suggested one to the effect that a scheme such as this, involving a large conception in lay-out and design, does not lie so readily within the national temperament as it does in those of our confrères on the Continent. That this is so, with some brilliant contemporary exceptions, may be accepted as generally true. But it might have been expected that by this time the influence of the Schools would have made itself felt on this side of the Channel, and one wonders, with an opportunity such as this competition afforded, where were our Degree students and Rome Prize men.

Did this temperamental difference, one is tempted to enquire, affect the promoters in their bilingual rendering of the Conditions, as well as the competitors in their conception of their intention? The programme, in French, invited designs for a "Palais," that in English for a "building"!

Of course, the mere paucity in number of the British competitors in itself greatly reduced the chance of any appearance in the prize list, while at the same time casting a reflection on the sporting enterprise of our architects. Out of the 10,000 architects in Great Britain, with how many more in Greater Britain beyond the seas, only twelve seem to have entered the lists for their country, so far as revealed by the Institute's enquiries!

Allowing for even a modest average merit in these, compared with the other 365 designs submitted, a three per cent. in numbers gives but a like proportion in the chances of scoring a success.

But apart from these general considerations it is, I believe, the case that the English-speaking competitors were handicapped, if only to a minor extent, by the wording of the Conditions issued in that language. That this was so the writer learned from a comparison with the French when too late to be of use. A case in point is with regard to the number of telephone cabinets required (each a small room in itself), which, in one part of the English version was given at 50 and in another at 15, a discrepancy absent in the French original. More serious was the mistranslation of the expression "Salle des pas perdus." The significance of this architectural term in the original is so generally understood that it should have remained as such in the English version instead of the entirely inadequate and even misleading rendering into "lobbies or galleries."

Again, in the matter of the presentation of the design a misconception may easily have arisen. The French word "lavée," prescribing the method which might be employed in the rendering of the sections and elevations, is univerally understood as a technical expression meaning a rendering in light and shade with cast shadows. Its translation into English as "merely washed over in one colour" is quite insufficient to give the promoters' intention.

While these points affect the English issue only, it may be noted in passing that the programme in both languages, in its strict allocation of the accommodation to the several floors, added greatly to the difficulties of such an extensive and complicated scheme. Of such was the stipulation that the Library be placed on the ground floor *or* on the top floor, the area required for this department alone being 3,000 sq. metres. Much the greater part of the floor space required was for book storage (though without indication as to whether open access to the shelves was intended), and a natural solution, apparently adopted by many of the premiated designs, was to distribute the area over many floors in the manner of a lofty tower. But a strict adherence to the Conditions would have non-suited this alternative.

Of much more serious bearing, and one which may have influenced the British competitors to their disadvantage, was the question of cost. To quote the original French on this point (equally explicit in English) "Le coûte de la construction, y compris les honoraires de l'architecte, ne peut depasser *en aucun cas* la somme globale de treize millions francs Suisses." The Summary of Estimates and Prices made it clear that this cost was to include the laying out and embellishment of the extensive grounds together with the reinstallation of the harbour on the lake.

From the particulars available in the architectural press regarding the cube and cost of the very simple Labour Building, then just completed, on the adjoining site there was little difficulty in ascertaining the extent to which these millions would go. In the result it was evident that only by the greatest concentration in plan (subject to the provision of adequate lighting) and simplicity in construction and design, with a purely practical lay-out of the grounds, was it possible to adhere to the regulations.

Is it allowable to suppose that the British temperament resisted the temptation to let its imagination over-ride its business sense, thus cutting its cloth to the narrowest

limits of its coat in the understanding that this clear and important stipulation would be adhered to ?

That such self-denial had little or no influence on many of the designs from other countries is seen when the illustrations of a selection, issued by the League, are studied. Wide-spread and elaborately-designed buildings, with spacious " salles des pas perdus " for the purely business block of the Secretariat as for the Assembly Hall and the Council groups ; colonnades within and without ; one or more " Cours d'Honneurs " as approaches, with stately lay-out of grounds, indicate the necessary expenditure for realisation of a sum approaching the double of that stipulated.

This cost problem and its undoubted influence in starving many able designs has now been more adequately faced by the League. To the special Committee now proceeding to select, for execution, one of the nine first premiated designs, the allocation granted has been increased to nineteen-and-a-half millions of Swiss francs (about £800,000) from the original thirteen millions.

One has a natural feeling of disappointment that the inadequacy of the sum originally prescribed was not brought home to the League Council at an earlier stage by their technical advisers. Had this been so, the way would have been open for a more generous, while honest, interpretation of the requirements otherwise.

But as to that and such other points in the Conditions which have been subject to comment, seeing that competitors, whether handicapped or not, engaged in the work with full knowledge and acceptance of the terms, they must be content to abide by the result, consoling themselves with the belief that the game was worth the candle. If it was not, there is still satisfaction to be got in applying the reassuring comment of the Professor of the Atelier at the Beaux Arts when a student's design showed but too clearly that a medal or mention was not to be looked for, " ça fera une bonne étude " !—Yours faithfully, ALEXANDER N. PATERSON [*F.*]

LINDSELL *v.* YOUNG.

20 *Bedford Row, London, W.C.*,
7 *December* 1927.

To the Editor, JOURNAL R.I.B.A.,—

DEAR SIR,—My attention has been drawn to the note under the above heading in the JOURNAL of 26 November, inserted by the Council in a light and airy way for the purpose, as I am informed, of removing the unfortunate impression that the incomplete report referred to had created in the mind of a member last July.

I would like to thank the Council for doing me the honour of desiring to correct something I did not say nor was reported to have said, as it now makes the matter quite clear.—Yours faithfully, J. DOUGLAS SCOTT [*A.*].

BYE-LAW 85.

9 *North John Street, Liverpool.*
16 *December* 1927.

To the Editor, JOURNAL R.I.B.A.,—

DEAR SIR,—At the General Meeting (Business) held on Monday, 5 December last, at which 32 members were present, a resolution was passed to omit from Bye-law 85 the words " in respect of and for his subscription thereto."

No good reason has been given for this apparently simple modification, which will materially affect the relations of the Institute and its provincial members.

Very few provincial members appear to have any knowledge of the change. What it really means is that it removes from them any right to have a part of their annual subscriptions refunded in payment of their subscriptions to their local societies, an arrangement which has been beneficially in force for the past forty years. The money to be diverted from them amounts to over £2,000 per annum.

Provincial members may reasonably object to a liability to pay full subscriptions to both the Institute and their local society, so that should the alteration to the bye-law be sanctioned by the Privy Council the result cannot be otherwise than prejudicial to the membership of local societies.—Faithfully yours, E. PERCY HINDE [*F.*].

CHARING CROSS BRIDGE.

ARCHITECTURAL REPRESENTATION.

With regard to the appointment of an architect on the Committee of Engineers charged with the investigation of the problem of a new Charing Cross Bridge, the following correspondence has passed between the R.I.B.A. and the Ministry of Transport :—

9 *August* 1927.

Charing Cross Bridge.

SIR,—I am directed by the Council of the Royal Institute of British Architects to suggest to H.M. Government that, as architectural problems are likely to arise during the investigation of the problem of a new Charing Cross Bridge, an Architect should be added to the Committee of Engineers now charged with the enquiry.

My Council would be very glad if you will be good enough to give this suggestion your careful consideration and, if possible, to act upon it.—I am, Sir, your obedient servant, (Signed) IAN MACALISTER.
Secretary.

Lt.-Col. Rt. Hon. Wilfrid W. Ashley, P.C., M.P.,
Minister of Transport,
6 Whitehall Gardens, S.W.1.

Ministry of Transport,
Roads Department,
*Whitehall Gardens, S.W.*1.
23 *August* 1927.

Charing Cross Bridge.

SIR,—I am directed by the Minister of Transport to refer to your letter of 9 August, and to inform you that Engineers have been appointed for the purpose of investigating the practicability, alignment and cost of the suggested bridge at Charing Cross, and that it is not considered that any architectural problems are likely to arise at this stage, and accordingly the Minister is of opinion that no useful purpose would be served by the appointment of an Architect to collaborate with the Engineers at the present time.—I am, Sir, your obedient servant,
(Signed) J. S. POOL GODSELL.

The Secretary,
The Royal Institute of British Architects.

4 *November* 1927.

Charing Cross Bridge.

SIR,—I have now brought your letter of 23 August before the Council of the Royal Institute of British Architects, and in reply I am asked to call attention to the statement made by the Prime Minister on 16 March 1926 to the effect that the Government " will be prepared to contribute to the scheme if, after examination of its engineering, financial and æsthetic aspects, it appears satisfactory." Unless this means that an architectural enquiry is to follow the engineering one, which can hardly be the case, it would appear to be essential for the architectural standpoint to be represented on the present committee of enquiry, and especially so because the leading architectural considerations are the question of the level of the bridge in relation to the Strand, the alignment of it as affecting the matter of sites for important buildings, and, most important of all, the question of whether the bridge should carry both roadway and railway or the railway be taken under the river at some convenient point.

The design of the bridge itself as an architectural composition is, of course, very important, but these other considerations and possibly many more are fundamental and should certainly not be dealt with by engineers alone.

I am directed to express the hope that the matter may have further and very serious consideration and that steps may be taken to ensure that the architectural aspects of the problem may be dealt with on broad lines at the outset.—I am, Sir, your obedient servant,

(Signed) IAN MACALISTER,
Secretary.

J. S. Pool Godsell, Esq.,
Ministry of Transport,
Roads Department,
Whitehall Gardens, S.W.1.

28 *November* 1927.

Charing Cross Bridge.

SIR,—With reference to my letter of 9 August 1927, your reply of 23 August 1927, and my last letter of 4 November 1927, to which I have not yet received a reply, I am desired to point out to the Minister of Transport that the subject of this correspondence is one of very great interest to the architectural profession, and that it is desirable that the attitude taken by my Council in the matter should be made known without delay. My Council therefore desire me to send at once to the public Press copies of the correspondence that has passed between us. Before this action is taken I shall be obliged if you will kindly let me know whether the Minister of Transport has any objection to such publication.—I am, Sir, your obedient servant,

(Signed) IAN MACALISTER,
Secretary.

J. S. Pool Godsell, Esq.,
Ministry of Transport,
Roads Department,
Whitehall Gardens, S.W.1.

Ministry of Transport,
Roads Department,
Whitehall Gardens, S.W.1.
1 *December* 1927.

Charing Cross Bridge.

SIR,—I am directed by the Minister of Transport to refer to your letters of 4 and 28 November on the subject of the investigation which is now proceeding into the question of the construction of a double-decker road and railway bridge at Charing Cross.

I am to enclose a copy of a Parliamentary question which was addressed to the Minister on 29 November and of the Minister's reply.*

As stated in this reply, the examination of the scheme of the Royal Commission is for the present directed primarily to its engineering and financial aspects. Your Institute may rest assured that the Minister recognises the importance of architectural considerations which must arise in connection with a project of this kind and that they will not be overlooked, but he does not consider that any useful purpose would be served by an examination of the architectural and æsthetic aspects of the scheme until its general features, which must depend on engineering and financial considerations, have been investigated.

I am to add that the Minister has no objection to the publication of this correspondence in the Press should the Royal Institute of British Architects so desire.—I am, Sir, your obedient servant,

(Signed) H. H. PIGGOTT,
Assistant Secretary.

The Secretary,
Royal Institute of British Architects.

*[*Enclosure.*]

Sir William Davison asked the Minister of Transport whether he can inform the House as to the progress which has been made by the committee of engineers who were appointed in March last to examine the scheme of the Royal Commission for a double-decker road and railway bridge at Charing Cross, having regard to its engineering, financial and æsthetic aspects ; and when it is likely that their report will be submitted to Government and to Parliament.

Colonel Ashley : The examination of the scheme of the Royal Commission for a double-decker road and railway bridge at Charing Cross is for the present directed primarily to its engineering and financial aspects. The problem is one of great difficulty and complexity, and although all possible progress is being made, I do not anticipate that the engineers charged with the investigation will be in a position to report before next Spring. I should add that the engineers received their instructions on 14 May last, and not in March, as stated in the question.

SIR ROBERT LORIMER, K.C.B.E.

The King has appointed Sir Robert Stodart Lorimer, A.R.A., R.S.A., F.R.I.B.A., a Knight Commander of the Order of the British Empire. Sir Robert Lorimer, who was knighted in 1911, was architect for the new chapel of the Knights of the Thistle at St. Giles's Cathedral, Edinburgh, and the Scottish War Memorial at Edinburgh Castle.

The Library

NOTES BY MEMBERS OF THE LITERATURE COMMITTEE ON RECENT PURCHASES

[*These Notes are published without prejudice to a further and more detailed criticism*].

BRITTANY AND NORMANDY. Edited by Findlay Muirhead and Marcel Monmarché (The Blue Guides). Sm. 8vo. Lond. 1925. 7s. 6d. each. [Macmillan and Co., Ltd.]

Two new volumes in this useful series. The plans of towns are excellently printed and coloured, and the descriptions are well proportioned to the importance of the various places.

H. M. F.

GIUSEPPE GATTESCHI. Restauri della Roma Imperiale con gli stati attuali ed il testo spiegativo in quattro lingue, Prefazione del Prof. Orazio Marucchi. Ob. 40. Rome, 1924. 150 lira. [Edizione a cura del Comitato di Azione Patriottica.]

A book of 100 illustrations of famous Roman sites. Opposite each photograph is a restoration of the same subject. Will be found to be of the greatest interest to students of history. It throws considerable light on many almost incomprehensible photographs of famous Roman ruins.

B.

L'ART GOTHIQUE EN FRANCE. L'architecture et la decoration, 2nd series. By Camille Enlart. fo. Paris [1925]. £2 5s. [Albert Morancé, Paris.]

This portfolio of collotype plates is the continuation of a work begun by the late M. Camille Martin, and has been entrusted to the capable hands of Mr. C. Enlart, the most distinguished living authority on French Mediæval art. Architectural details are shown with admirable clearness, and the only obvious criticism to be made is of the selection of such well-known and, it may be added, over-restored buildings as Chartres, Amiens, and Notre Dame for illustration.

BAUKUNST DES 17 UND 18 JAHRHUNDERTS. In den Germanischen Ländern. Dr. Martin Wackernagel. 4°. Berlin [1915]. 12s. 6d.

This German book gives photographs and measured drawings of various 17th and 18th century buildings.

In many of these the architectural lines are pleasing but the ornament is their ruin.

This looks as though such had been thrown on here, there and everywhere and then modelled with as many curves as could be thoroughly classed with the dignified straight lines of the architecture; but there is one notable exception; this is on plate III, The Mayor's House at Haag, which will repay careful study.

A. E. H.

KLEINBAUTEN UND SIEDELUNGEN. Zusammengestellt von C. H. Baer. 4to. Stuttgart, n.d. 18s. [Julius Hoffman, Stuttgart.]

In this survey of recent domestic architecture in certain towns of Germany, the author describes and illustrates a number of houses which, pleasantly rational, miss alike the crudity and the vigour of much modern German work. They are well indicated by photographs and scale plans, among the latter being several layouts of housing schemes.

I. M. C.

THE ART OF DRAWING IN LEAD PENCIL. By Jasper Salwey. 2nd Edition. 8vo. Lond. 1925. [B. T. Batsford, London. 12s. 6d.]

The illustrations in nearly every case are ink versions of lead pencil. The beauty of lead pencil work has not been caught by the printer. With this slight defect the book is interesting, as Mr. Salwey gives a good many new hints with regard to rapid sketching and the styles of drawing adapted for reproduction work.

A. E. H.

THE CATHEDRAL CHURCHES OF ENGLAND. By A. Hamilton Thompson. 8vo, Lond., 1925, 8s. 6d. [Society for Promoting Christian Knowledge.]

Although Mr. Hamilton Thompson's books are mainly for the general reader who is interested in the study of architecture, they yet have much to commend them to the serious student.

This book deals with the architectural development of cathedral churches, whether of religious orders or of secular canons, the buildings and internal arrangements, the cathedral close and its daily life. There is a useful bibliography at the end of the book.

W. H. A.

ROOF COVERINGS, THEIR MANUFACTURE AND APPLICATION. By Ernest G. Blake. 8o. Lond., 1925. 10s. 6d. [Chapman and Hall, Ltd.]

The various materials used for roof coverings are dealt with under three divisions—organic, metallic and mineral, which are further sub-divided into natural and manufactured.

The advantages and drawbacks of each kind of material are fully described, and the method of fixing and the conditions under which they are best laid are fully set out and illustrated by clear diagrams.

The method of forming valleys with Eyford stone slates is illustrated by a photograph, but this does not give the reader who is seeking how to turn a valley in stone slates or tiles very much assistance. In future editions this might be done by diagrams.

The book is a useful collection of facts relating to roofs.

H. D. S.

COUNCIL FOR THE PRESERVATION OF RURAL ENGLAND.

The first annual general meeting of the Council for the Preservation of Rural England was held on the 6th December, at the Royal Institute of British Architects, Conduit Street, W., Lord Crawford and Balcarres, president of the council, presided. The officers of the council and the executive committee were unanimously re-elected for the coming year.

The annual report, which was adopted, shows that in addition to the constituent organisations there are 41 affiliated societies. A study of the causes and remedies of rural desecration has been undertaken, and the report points out that the study of existing powers may reveal certain gaps which it may be necessary to fill by new legislation. The general conclusion so far arrived at is that there are ample powers, but that many of them are not used because of some small difficulty or misunderstanding experienced by the responsible authorities. A simplified form of planning scheme is considered essential for the whole country, and the council will shortly issue a proposal which will contain a slight amendment to the Town Planning Act, 1925, an amendment which, it is hoped, may also affect the title of the Act. One of the fundamental objects of the council is to increase the holdings of the National Trust and other bodies. A scheme is being considered to supersede the frequent practice of eleventh-hour purchase of land at exorbitant prices or at prices which can be obtained for building. A systematic survey of England will be made of those particularly beautiful parts which have a small value agriculturally, and a policy laid down by which these may be acquired either wholly or their essential uses secured for the public. There is no reason, too, why reserved land adopted for the purpose should not be cultivated to the fullest possible extent.

The council is formulating a combined policy of constructive help in design and critical control for the suppression of outrage. For the former purpose it is hoped to set up voluntarily panels of architects who will be prepared to give advice and guidance to intending builders and local authorities. For the latter there is the model clause drafted by the Minister of Health, giving statutory powers of rejection, which can be put into operation by means of a town-planning scheme. The first move in the direction of constructive help in the design and materials of rural building has been taken with a view to helping local authorities to carry out the requirements of the Minister of Health as given in his circular on the Housing (Rural Workers) Act. A central panel of architects with representatives of local authorities and landowners has been set up; through the R.I.B.A. the allied societies throughout the country have been approached and have agreed to nominate architects to serve on local panels. It is hoped to offer the use of this organisation to the Minister at an early date.

Lord Crawford, moving the adoption of the report, said the Council had had a strenuous and active first year. There were many signs that the public were becoming alive to the hardships inflicted on them by reckless attacks on rural England. They had been in correspondence with clubs, societies, and movements scattered all over Britain during the past 12 months, and one of their great difficulties, incidental to such institutions as theirs, had been that of finance. They could only afford to have one single room for their office, and he appealed to supporters to enlist new friends so that their work might be conducted under better conditions. If they could secure that help through subscriptions he would guarantee that their work would gain enormously in its efficiency.

Dealing with the general merits of their movement, he quoted a resolution passed by the Rural District Council of Woodstock, which, he said, ought to be more widely known. The resolution asked the Government that power should be given to local authorities to refer back or reject plans of all buildings presented for their approval which threatened the beauty of the countryside. It was really a very remarkable fact, commented Lord Crawford, that the Woodstock Council, which, happily, had not suffered anything like the outrages committed in many neighbouring areas, should be so fully alive to the threat to the dignity and beauty of our countryside that they should invite the Government to increase their powers so as to preserve rural England. He hoped that that notable example might be followed by every local government unit, not merely in beautiful areas like Woodstock, but everywhere, so that the principle might be asserted that nobody was entitled to invade the countryside by building structures of any description which were an offence to right-minded people, who loved the traditions and beauties of England. He had mentioned Oxfordshire, but in many other counties there was satisfactory evidence that their movement was taking root. To make it effective, it must take root deeply, and the roots must be widely extended.

Professor Patrick Abercrombie, honorary secretary, who seconded the adoption of the report, dealt with the work of general organisation, and remarked upon the gratifying fact that among the bodies affiliated to the council were organisations of architects in Australia, New Zealand, Tasmania, and Ontario. The Baltimore Chapter of the American Institute of Architects was also affiliated. This showed that the appeal of their movement to the English-speaking races was world-wide. They hoped that eventually the whole country would be covered with a network of local preservation societies. They had decided that it would be advisable to take tracts of beautiful country and establish committees which would be miniatures of the council itself, and the Thames Valley was the first area selected. From Oxford to Windsor was a district of which every Englishman was proud, and they were in process of setting up a Thames Valley Committee. He commended the action of Lord Astor and others who had stated that they were prepared to " zone " their private estates as open spaces for ever. The acquisition of national parks, in co-operation with the National Trust, was one of their aims, and they hoped to put forward an agreed scheme with the Ministry of Health under which free architectural advice would be available in carrying out repairs on old cottages. They had also in preparation a policy for giving guidance and advice on landscape design, and they were embarking on a series of lectures and wireless talks.

Mr. E. Guy Dawber, A.R.A., vice-president of the council, said although they had been in existence only 12 months they had created a volume of public opinion throughout the country that no other society with similar objects had ever achieved. The great thing they had to contend against was finance. It was absolutely essential that they should have more money. He appealed for subscriptions rather than donations, and hoped that some enthusiast would come forward and provide them with suitable office accommodation at a very reasonable rate.

A resolution was carried inviting the executive committee to consider the question of inaugurating a conference relating to the preservation of rural England.

Sir Theodore Chambers who moved the resolution, said the country was being devastated more rapidly than they could reasonably hope to prevent in any given time. He took a most ambitious view of the ultimate powers of the council, and he felt that their influence was not going to be confined to the British Isles. He referred to the growing disfigurement of the beauties of popular Continental resorts, particularly mentioning the Riviera, the Pyrenees, and some of the valleys of Tirol. That man had it in his power to preserve beauty and to create beauty, from the constructive point of view, was a message for which the whole world was waiting.

Sir Leslie Scott, M.P., said that the legal powers that existed to assist in the control of the causes of the disfigurement of the countryside were very much wider and more effective than was generally supposed. Suggesting amendments that might be considered, he said the one primary amendment wanted was that there should be no limitation in the Town Planning Act as to the kind of land to which planning powers might be extended.

It was decided that the council should meet twice yearly.—*From " The Times " Report, 7 December* 1927.

Informal Discussions at Business Meetings

At the conclusion of the formal business at the general meeting held on 5 December, Mr. G. Leonard Elkington explained the proposals which had been suggested by the Practice Standing Committee, and approved by the Council, for utilising advantageously the opportunities afforded by the R.I.B.A. business meetings for useful discussion amongst members of matters of current professional interest or concern in a free and informal manner.

Mr. Elkington's statement and the discussion which followed are printed below, so that members may be able to understand more clearly the objects of the proposals put forward. The Practice Committee invite members to communicate their views as to the usefulness of the scheme, and to submit any suggestions which may occur to them for increasing its value.

Mr. ELKINGTON: The Practice Committee for a long time, by virtue of the work—and I think they are one of the hardest worked committees of the Institute—have concluded that much of the business which comes before them might be more usefully and advantageously transacted at a meeting such as the present one, where there is a small—but select—attendance of members of the Institute. My experience of business meetings of the Institute goes back many years, and I do not recollect, except when there was a dispute between one section of the Institute and the Council, any at which there was a large attendance or anything of particular interest. Yet the room has to be prepared, and the staff has to be on duty, and we get something in the shape of refreshment at the end. It seems a pity to waste the time of busy men in getting them to come here and transact the essential business of the Institute, and lose thereby an opportunity of benefiting one another and discussing matters of topical and professional interest. Therefore the Practice Committee put this suggestion forward. It may be thought to be rather a reactionary proposal, yet I saw in the minutes of the Council and of the Institute that in the old days they used to have, at their business meetings, little talks, with no reporters present, not even our own JOURNAL reporter. Point blank questions were asked dealing with professional practice, and much information was given by the older members for the benefit of the younger members. The older members were rather intrigued by the problems which the younger members used to put to them, which they had encountered when starting in practice. All that was to the good; it represented co-operative knowledge, and it is only by the spirit of co-operation that the Institute has been able to do for the profession as a whole, what it has done. The whole of its system of education has been, more or less, on a co-operative basis. Therefore the Practice Committee thought that as these business meetings have to be held, under our bye-laws, at least four times a year, and as the business done is often short and exiguous, we might have a sort of programme which would attract members, and might result in something of real use, and that the meetings might benefit the younger members in some of those elements of professional knowledge which are not to be acquired in any school or in any university, only in the hard school of experience. It seemed to me that the Practice Committee's suggestion was eminently desirable, if only from a personal view, and that anything we can do to increase the attendance at these meetings should be done, even if members only criticised the Council. It was therefore thought that, following the formal business, those present should, as it were, form themselves into a Committee of the Institute, so that any member who desired to do so could raise any question he had encountered in his profession, in an absolutely informal manner. Architects, I know, as in my own case, are usually incapable of stringing a few words together in an interesting way, but if a debate were raised or a question asked on a provocative subject it would not be felt that time had been wasted at these meetings, and I am sure much would be learned by taking that course. The advantage would not only be to the individual member; there would be advantages to the committees, and to the Council as well; there would be advantages all round if the scheme could be brought into operation. By raising questions at such meetings, opinions would be given from a larger body of members than is possible within the four walls of a committee room. Take the Practice Committee, with which I am more intimately concerned; practice in this country is not dictated by the acts of the few, but by the practice of the many, and the more we discuss these problems the better it is for everybody. One man may have discovered a way out in a difficulty relating to our Scale of Charges, or our Regulations for Competitions, and in the various pitfalls which every practitioner meets.

Or take the Art Committee. In these high-pressure days the architect will not write a long screed and send photographs to a committee, but if the member comes here to a Business meeting he can raise questions on the loss of an old building, the action of a local council, street widening, removing something of intrinsic beauty; and if it turned out to be important there should be members of the committees concerned present to take it up. And the same with the Science Committee; they have problems always current, and I think they would gladly welcome questions, and would give information in a frank and informal discussion.

As I have said, it is not a new scheme; it is going back to early days, when senior members of the Institute tried to help the younger men. In these days we see intensive school programmes, intricate studies in design, and a high standard of architectural education, but one thing the man cannot learn in his school or university is the solution of the ordinary difficulties of his profession; this he can only learn in a frank interchange of opinions with his confrères.

How this idea works will depend on the amount of support it receives from the members generally. The Council have been friendly, and they have allowed us to outline the scheme. If members approve it, we can, perhaps, carry it out at the next Business meeting.

It is clear that any scheme such as I have adumbrated must have a certain amount of safeguard; any discussions of the kind must be under the sole control of the member

of the Council who is in the chair, otherwise we may have statements made which are of a slanderous nature.

I shall be glad to hear the matter commented on by the members present.

The CHAIRMAN: The subject is open for discussion.

Mr. LEVERTON: I think it is decidedly worth while. I second the proposition.

Mr. MILBURN: I ask whether we shall be sitting at those meetings without a reporter?

The CHAIRMAN: Absolutely.

Major CORLETTE: I have felt for a long time that these meetings of the Institute have been very dead, and I welcome this effort of the Practice Committee to infuse some life into the later part of these Business meetings; the first part is formal business, which we must have. The Institute and the profession is full of young, strenuous, vital men, and they are going to carry out the traditions—and they are very fine ones—of our great profession. If these men do not come here and give us the benefit of their newer experience, how can we, as a Council, attempt to interpret for the body at large what the feeling of the coming members of the profession may be? So, speaking in a general way, I strongly support the proposal which is now before us. I would like to see some strong effort made to induce these younger members to come here and help us with their discussion of questions, not to stand outside the Institute and critically, at that distance, survey the iniquities of the Council. Occasionally I meet some of these younger men, and they are very brilliant men, much more so than some of us who are their seniors, and we would welcome any criticism they would like to offer us as to our deeds and our misdeeds, because we should feel they were helping us to do what it is our duty to do towards the profession as a whole.

The opener of this discussion spoke of three important Standing Committees, but he omitted the most important of the lot. I am a member of the Literature Standing Committee, and I suggest to him that that really is of some value to the Institute.

We have heard little to-night of the importance of the Library; it is the most important and most valuable architectural library in the world; that is admitted. The reason we are trying to get new premises is because we fear the library is not safely housed under present conditions.

And in connection with the library question, I suggest the JOURNAL itself might be made of much more interest to the members of the profession as a whole; to jump outside these walls for a moment and get across the seas. I know the men on the other side of the waters are looking for a little bit more from the Institute, of which they are members, than merely the satisfaction and privilege of paying an annual subscription, of which a certain small sum under the resolution passed to-night will still be returnable to them or to their local institute, from which they may get a small benefit, or not, as their local institute may decide. But if we could make the JOURNAL more a living affair—though I do not suggest it is not very much alive at present—it would greatly improve it and make it of more general interest. At present you can divide it into two large parts. One is the interesting part, the other is of very small interest; it is merely on current affairs. If we could get some forms of illustration in the JOURNAL of important works, with details to scale, not so that men could "crib," but so that they could see how the old men arrived at effects which we all admire, the JOURNAL would really be a valuable asset to every one who pays a subscription. I think I have said enough in support of the question before us to-night.

Mr. McARTHUR BUTLER: I hope it will not be confined to London members of the Institute, but that it will pay particular attention to the observations which come from the country members. The strength—or weakness—of the Institute lies in its membership outside London.

Mr. BUTLER WILSON: It may interest the Institute to hear that this proposal is already in force—187 miles away, at Leeds. At this Northern district it was thought the students themselves could suggest subjects for discussion. The first one they suggested at the school of architecture in my city was "Should pupils practise?" It was called for 6.30, and the President closed the meeting to go to dinner at 9.45! And one brilliant youth said he thought this question should be seriously considered: Whether a pupil in an office should enter a competition in which his principals were also entering. It was said there might be some objection to that, because the pupil might beat the principal. Therefore in this matter you are laying yourselves out for strenuous times, and this Institute may again be as I knew it 30 years ago, when on some occasions, upstairs, one could not get a seat. The desire of many men who are members of the Institute and Allied Societies to voice their views should be given vent. It is amazing to find that those who know least about a subject are the most didactic in giving their views. Younger men are apt to think that difficulties which are evident to all of us are easy of solution. It is a great scheme to give the young man an opportunity of putting forward his solution.

Allied Societies

MANCHESTER SOCIETY OF ARCHITECTS.

The Manchester Society of Architects held their annual dinner on 8 December. Mr. Harry S. Fairhurst, the president of the Society, was in the chair, and the chief guest was the President of the Royal Institute of British Architects, Mr. Walter Tapper, A.R.A., who gave an interesting commentary on Manchester works and a general speech on architectural manners.

The Lord Mayor, responding to the toast of "The City of Manchester," referred to the darkness of Manchester and to the recent improvement in its buildings, remarking that it was good that architects now studied not only the framework of a building but the work that was to be carried on inside it. Manchester would be a long time no doubt before it approached the beauty of Edinburgh, but a number of new buildings were a credit to their architects. He could congratulate the business men on their foresight and fearlessness in face of bad trade.

He wished he could say the same of the municipality. It had had men of foresight and wisdom in the past, but somehow or other recently they seemed to be losing hope. There was only one department that lately had the foresight and wisdom to launch out, and that was the Waterworks Department.

" One is almost ashamed to mention the old Free Library," he continued. " We plan a great building, but when we have the plans we have finished with it. I am exceedingly sorry for that; but notwithstanding all this pessimism we shall get our Library.

" I am fully satisfied there is no ground too valuable in Manchester for the Reference Library, that supplies the brain-food of one of the great industrial centres of the world. To say that that ground is too valuable is not to talk Manchester. Its municipal buildings should be the finest buildings in the city, and should be put on the most expensive ground in the city if they are to be serviceable."

Whether the Town Hall would be extended or not the city would get its Library. Naturally the Corporation had got plans for the whole of the proposed structure. But having done that it did not matter if the Town Hall extension was not built for another twenty years; they could still go on with the Library.

The Lord Mayor, in conclusion, paid a compliment to the architect of the Ship Canal building (Mr. Fairhurst) and to the new buildings in Cross Street. These designers, he said, had come up to date, thus allowing business to become orderly and efficient.

In proposing the toast of the Royal Institute, Mr. Fairhurst referred to its parental position and care over the 26 allied societies within the British Isles, and the 14 in Africa, Australia, New Zealand, Canada, Burmah, India, and Singapore. He believed there was a great future for the architects of the British speaking world and he thought that in Manchester architects were doing their fair share of the work of building. He thought they were doing something better than had been done during the preceding thirty years. He was glad to know that the newspapers, and especially the *Manchester Guardian*, were doing great service by showing the public that there was something more in architecture than mere building.

It was, Mr. Fairhurst said, " a very difficult thing to be an architect in Manchester." The Lord Mayor of London had put on his black cap and sentenced to death 2,000 pigeons for the excuse of soiling and destroying good buildings. " They are to be put to death in the kindest way possible," Mr. Fairhurst continued. ' We've got our Lord Mayor here to-night, and I want to tell him not to mind pigeons, but to notice that —I have it on the best authority—20,000 tons of dirt fall on Manchester every year, and that however beautiful our buildings are when we build them, grey veils fall on them very soon. Sometimes it spoils them and sometimes it covers them up. And in that 20,000 tons I am informed there are 76,000 gallons of tar, and 210,000 gallons of concentrated sulphuric acid. These figures, I may say, have already appeared in the *Manchester Guardian*. We who lived in a concentrated industrial centre should take every measure to get rid of this tar and dirt. Its damages cost millions to repair, and if those millions could be kept, or spent upon investigation of methods of keeping clean those buildings we should be doing a great work."

Mr. Walter Tapper, the President of the Royal Institute of British Architects, replied to the toast. The Manchester Society, he said, was one of the oldest, strongest, and most distinguished of the Allied Societies in the British Empire. It sent to the Council of the Institute some of the wisest and most public-spirited of men; from Manchester came a professor of the schools at South Kensington and a Doctor of Literature to the Fine Art Commission. The Institute was now linked in affection and respect with all its Allied Societies. Yet all their joint work would be wasted unless it resulted in finer architecture.

To be a man of education and a man of culture was needed to-day more than anything. The expression of these things in building was the purpose for which the Institute and the Allied Societies existed. One did not get refined buildings unless men were refined themselves. He would like to think that the middle of the nineteenth century was part of our time and to claim for it the great Free Trade Hall with its great history, which was really a great monument. Edward Walters, its architect, should be held in gratitude by every Manchester man. In Cockerell's Bank of England Manchester had a really noble building. Such things should only be done by men of refined taste and noble character. Of more modern times they had the Arts Building of the University, the Opera House, Blackfriars House, the Ship Canal House, and other fine buildings, evidences that architecture was alive and flourishing in Manchester. He wished to mention also two buildings of inestimable and practical value, the Cathedral and Chetham's Hospital.

Professor Reilly in his excellent book had paid Manchester the finest compliment in saying that the city expressed itself most clearly in its buildings. The great thing about architecture was to express the use of a building; unless it did that it was of very little use. Manchester thought in big architectural terms. Only recently the Corporation had projected a very great scheme, the extension of its municipal buildings and the building of a great library. He hoped that great scheme would go forward. It was a matter of congratulation that the merchant princes of the city were seeing more and more clearly how closely architecture was allied with commerce. They began to see that it was really an asset. If he read the signs of the times aright, their offices and factories were receiving tremendous consideration.

A few weeks ago he had spoken in the celebrations at Bath of Edward Wood, who with Ralph Allen made Bath a gentleman's city. The education of an eighteenth century gentleman was not complete without a real knowledge of the fine arts; sufficient knowledge to be able to discriminate between good and bad architecture. That was what we needed, and he was optimistic enough to believe that before long the nation would make efforts to ensure that children received as a part of education such a knowledge of architecture, painting, sculpture.

Unless the corporations of such cities as this and the men in their streets really desired greater architecture it would be impossible to get it. Civic pride was useless without that knowledge, and the architect must have in addition a love and veneration for all the traditions of his art. No question need arise about his originality, and the practical needs of his age would gave a man of genius plenty of opportunity for fresh thought and expression. This country would have been spared much ugliness and squalor had the tradition of the eighteenth century persisted. Every one of us was concerned, no less than the speculative builder, in the spoiling of the countryside. We should all be much better for understanding our present responsibility.

This profession was a noble one. Practised by a scholar, an artist, a gentleman, its influence and value must be inestimable. He begged them not to think of it as being a commercial business. That, of course, must enter into it. But it should not dominate. If it were allowed to do so they might be sure they would never do great architecture.

SOUTH WALES INSTITUTE OF ARCHITECTS.

Under the auspices of the South Wales Institute of Architects (Central Branch) and the Institute of Builders (South Wales Branch) a lecture was given at the Engineers' Institute, Cardiff, on Thursday, 17 November, by Mr. Howard Robertson, M.C., S.A.D.G., F.R.I.B.A. (Principal of the School of Architecture, the Architectural Association, London), Mr. J. E. Turner, J.P., F.I.O.B., acting as chairman.

Mr. Robertson's subject was " Current Architecture of Europe and America," and his lecture, which was illustrated by an excellent collection of lantern slides, was followed with great interest by a large and representative gathering of architects, builders and others interested in architecture.

Mr. Robertson dealt in turn with the development of modern architecture in America, Spain, Holland, Austria, France

Denmark and Sweden. With reference to the work in America Mr. Roberston indicated that this country led in rapid growth and daring construction, but that the architectural treatment of these engineering feats was still inadequate.

He showed considerable sympathy with certain European modernist movements, particularly in Spain and Holland, suggesting that the latter country was one which could claim a national modern style. He emphasised the importance of the part which the development of democratic architecture is playing at the present time.

A vote of thanks to the lecturer was proposed by Colonel E. H. Fawckner, F.R.I.B.A., Chairman of the Eastern Branch of the South Wales Institute of Architects, and seconded by Mr. I. J. Chorley, F.I.O.B.

Obituary

W. HILTON NASH [*F.*].

It is with great regret that we have to announce the sudden and quite unexpected death of Mr. Hilton Nash last Sunday evening, the 17th December. A few days before (on the previous Wednesday) he had attended a meeting of the Council of the Architects' Benevolent Society, and although it was known that he had recently been detained at home in consequence of one of his intermittent bronchial attacks, there was nothing in his manner or appearance to suggest such a fatal result. He died in fact on the eve of his and Mrs. Nash's proposed departure for the Riviera, where they usually spent the winter months.

Mr. Nash looked much younger than his age (he was seventy-seven) and he had retired from architectural practice for many years. His main interests in his later years were the affairs of the Architects' Benevolent Society, of which he had been Honorary Treasurer for over thirty years, water colour drawing, etching, and travelling abroad. He also retained his seat as a member of the Board of Examiners under the London Building Act.

Mr. Nash was born in 1850. He was articled to Henry Currey [*F.*] (the architect of St. Thomas's Hospital) and was afterwards in the office of Mr. E. B. l'Anson; he joined his father in partnership, the late Mr. Edwin Nash [*F.*], in 1877. For twenty years he was also architect to the Merchant Taylors Company, of which he was a Liveryman.

He gained the Soane Medallion in 1875, was elected an Associate in 1881, and a Fellow in 1894.

In conjunction with his father, Mr. Nash built or restored several churches, including St. Bartholomew's, Sydenham; St. John's, Penge; St. Phillip's, Sydenham; St. Mary Cray Church; Sparsholt Church, Berks; and Ingoldsthorpe Hall, Norfolk. After his father's death he built St. Peter's, Crawley; business premises for Raphael Tuck and Sons; Lloyd's Registry of Shipping, Tower Tea Company's offices, and a large block of offices in Lloyd's Avenue, E.C., the Chemical Schools and Head Master's House for Merchant Taylors School; the principal entrance to Merchant Taylors Hall, and designed the oak panelling for the large hall of the same company, several branch banks for the Midland Bank and the Capital Counties Bank, and the Chancel screen and reredos for All Saints' Church, Benhilton.

Mr. Nash was a loyal and interested member of the Royal Institute, and will be greatly missed by many of his old friends, more especially those who are also members of the A.B.S., the sympathy of all of whom will be extended to Mrs. Nash in her great bereavement.

R. D.

ARTHUR GROSVENOR WILKINSON [*F.*].

Mr. Wilkinson was born at Stockport, Cheshire, in 1870. He served his articles with Mr. H. Willoughby [*F.*], and had experience in the offices of leading Manchester architects. He was later engaged on the staff (Architecture) of the Manchester Ship Canal Co. during the construction of the canal and the necessary buildings. Later he commenced practice on his own account at Stockport, carrying out important works for Messrs. The Strines Printing Co., Derbyshire, Sir James de Hoghton, Bt., and other clients. He was a member of the Stockport Borough Council. During the war he joined the Royal Engineers as a commissioned officer and was afterwards employed on the Imperial War Graves Commission. Mr. Wilkinson died suddenly in hospital at Gravesend on Friday, 4 November, after an attack of ptomaine poisoning. He was elected a Fellow in 1925.

THE NATURAL LIGHTING OF PICTURE GALLERIES.

The Science Standing Committee desires to draw the attention of Members to the publication by the Department of Scientific and Industrial Research of Paper No. 6 of the series of reports on Illumination Research (H.M. Stationery Office, 1s. 6d.).

Primarily this publication constitutes a description of Gallery No. XIII of the new Duveen Wing of the Tate Gallery, Millbank. It is, however, not merely a description of a novel and valuable experiment in gallery lighting. A concise but exhaustive epitome is given of the combination of scientific enquiry, common sense, and of practical trial and error whereby the architects, H.M. Office of Works and the officials of the National Physical Laboratory worked in collaboration to achieve a gallery which for perfection of natural lighting will probably bear comparison with any in the world.

The records of scientific experiment are stated in clear and simple language, amply illustrated by graphs and photographs, and the description of the gallery itself does not omit those essential dimensions and details which serve to render it of immediate practical use to architects.

An appendix of great interest deals with the efforts now in progress to arrest the fading of fugitive pigments, especially in water-colours, without distorting the colour values of natural daylight.

A particularly interesting and scientific analysis is given in an appendix of the attempts of Sir William

Abney so to protect the priceless cartoon designs by Raphael and his pupils for the Sistine Chapel tapestries purchased by Rubens for Charles I, and now housed in the Raphael Cartoon Gallery at the Victoria and Albert Museum. The clear statement in this appendix of the theory of colour in light should render this inexpensive publication a valuable addition to the library of any architect, if such there be, who is not particularly interested in the lighting of picture galleries.

P. J. W.

NOTES FROM THE MINUTES OF THE COUNCIL.

7 November 1927.

PRESENTATION OF DRAWINGS TO THE R.I.B.A.

The Council passed a cordial vote of thanks to Mr. Sigismund Goetze for his kindness in presenting a selection of drawings and sketches by Alfred Stevens to the Institute.

INTERNATIONAL CONGRESS AT AMSTERDAM.

A report was received from Lt.-Col. H. P. Cart de Lafontaine [*A.*], the R.I.B.A. delegate at the recent International Congress of Architects held at Amsterdam.

The hearty thanks of the Council were conveyed to Lt.-Col. Cart de Lafontaine.

THE ARCHITECTS', ENGINEERS' AND SURVEYORS' DEFENCE UNION.

It was agreed that a letter signed by the President be sent to every member of the R.I.B.A. urging him to join the Architects', Engineers', and Surveyors' Defence Union if he has not already done so.

THE FELLOWSHIP.

The Council, by a unanimous vote, elected Mr. G. de C. Fraser of Liverpool to the Fellowship under the powers defined in the Supplemental Charter of 1925.

CHRISTMAS HOLIDAY LECTURES ON ARCHITECTURE FOR CHILDREN.

The Council of the Royal Institute of British Architects have arranged a series of three lantern shows on Architecture for children, to be held during the Christmas holidays.

They will be given by Mr. C. H. B. Quennell, F.R.I.B.A., and Mrs. Quennell, on the following dates :—

Friday, 30 December 1927, at 4 p.m.
Wednesday, 4 January 1928, at 4 p.m.
Friday, 6 January 1928, at 4 p.m.

The subjects will be :—

(1) Everyday Things in Roman Britain.
(2) Everyday Things in the Middle Ages.
(3) Everyday Things in the Renaissance.

The talks will be fully illustrated by lantern slides showing not only the buildings of the period but the ships, costumes, tools and occupations of the people as well.

It is hoped that the talks will show the importance of planning, that they may give a new meaning to old buildings seen while on holiday, that school history will be given a livelier background, that the children may be led to realise that the English countryside with all its everyday things of the past is a possession which must not be ruined by new and ugly work. Finally, that by seeing illustrations of many kinds of interesting work children may be helped to decide the work which they can best do themselves.

The first talk will show the state of civilisation which we had arrived at in the Early Iron Age, just before the coming of the Romans. Roman Britain will be illustrated by a series of reconstructions of Silchester. Stress will be laid on the importance of this connection with the civilisation of the Ancient Near East—Greece and Rome.

The second talk will begin with the Dark Ages and the destruction wrought then, and show how we had to build up a new mode of living and how this was reflected in bricks and mortar. Castles and monasteries will be illustrated and there will be slides showing life in the mediæval manor.

The third talk will show the Renaissance as a rebirth of the old classical knowledge which was lost in the Dark Ages.

The three talks will give an opportunity to exhibit the differences between what is *summed up* as Classic and Gothic.

The lectures are for children only, but adults will be admitted if accompanied by children. No charge will be made for admission.

Notices

THE FIFTH GENERAL MEETING.

The Fifth General Meeting (Ordinary) of the Session 1927–28 will be held on Monday, 9 January 1928, at 8 p.m., for the following purposes :—

To read the Minutes of the General Meeting (Ordinary) held on 19 December 1927 ; formally to admit Members attending for the first time since their election or transfer ; to announce the names of candidates nominated by the Council for election to the various classes of membership ; to read the Council's Deed of Award of Prizes and Studentships, 1928.

Mr. L. Sylvester Sullivan [*F.*] to read a criticism on the designs and drawings submitted for the Prizes and Studentships.

CHRISTMAS HOLIDAY LECTURES ON ARCHITECTURE FOR CHILDREN.

The number of applications for tickets for the series of illustrated talks to children by Mr. and Mrs. C. H. B. Quennell on 30 December and 4 and 5 January has been so overwhelming that no further tickets are available.

ARCHITECTS, ENGINEERS, AND SURVEYORS DEFENCE UNION, LIMITED.

It would seem that the circular "A" issued by the Defence Union containing information relating to its objects has conveyed to some members of the Institute the idea that the Union is an organisation formed outside of, and in some way in rivalry with, the R.I.B.A. Possibly this is due to the fact that the Union is a separate body and that its offices are at 28 Bedford Square and not at Conduit Street.

However this may be, the Council of the R.I.B.A. desires to remove any misapprehension and to state that the Architects, Engineers and Surveyors Defence Union, Limited, was formed under the auspices of and with the sanction and support of the R.I.B.A., and has permission to indicate this in its circulars.

The Council of the R.I.B.A. urges all eligible members of the Institute who have not yet joined the Union to do so without delay and as a matter of course, not only in their professional interests, but with the object of establishing firmly a Defence organisation founded by members of the Institute and carried on under the auspices of and with the hearty support and approval of the Council.

All communications relating to the Defence Union should be addressed to 28 Bedford Square, London, W.C.1, where accommodation has been placed at its disposal by the Council of the Institute.

Competitions

PROPOSED NEW SENIOR ELEMENTARY SCHOOL AT BIRKDALE.

The Education Committee of the County Borough of Southport invite architects practising in the United Kingdom to submit designs in competition for a new senior elementary school at Birkdale. Assessor: Professor S. D. Adshead, M.A. [*F.*]. Premiums, £100, £75 and £50. Last day for questions, 31 December 1927. Designs to be sent in not later than 10 March 1928. By applying to the Director of Education, Municipal Offices, Southport, and enclosing 10s. 6d., conditions of the competition may be obtained.

WHITBY URBAN DISTRICT COUNCIL LAY-OUT COMPETITION.

The Competitions Committee desire to call the attention of Members to the fact that the Conditions of the above Competition are not in accordance with the Regulations of the R.I.B.A. The Competitions Committee are in negotiation with the promoters in the hope of securing an amendment. In the meantime Members are advised to take no part in the Competition.

NARROW STREET IMPROVEMENT, PETERBOROUGH.

The Corporation of the City and Borough of Peterborough invite architects to submit schemes and designs in competition for the erection of municipal offices, shops, private offices, and other buildings proposed to be built on a site in Narrow Street.

Total cost not to exceed £200,000.

Assessor: Sir Reginald Blomfield, R.A. [*F.*].

Premiums: 500 guineas, 250 guineas and 150 guineas.

Last day for sending in designs, 29 February 1928.

Conditions of the above competition may be obtained from the Town Clerk, Town Hall, Peterborough, by depositing £1 1s.

MUNICIPAL COLLEGE OF TECHNOLOGY, MANCHESTER.

The Corporation of the City of Manchester invite architects to submit designs in competition for an extension of the College of Technology proposed to be erected on a site adjoining the present College of Technology building in Sackville Street and Whitworth Street, Manchester.

Last day for questions, Saturday, 10 December 1927.

Assessors: Messrs. Alan E. Munby, M.A. [*F.*], Henry M. Fletcher, M.A. [*F.*], and Francis Jones [*F.*].

Premiums: £500, £400 and £300.

Designs to be sent in not later than 5 p.m. on Friday, 30 March 1928.

For conditions apply to the Town Clerk, Town Hall, Manchester, and deposit £1 1s.

SEATON LAY-OUT COMPETITION.

Members of the Royal Institute of British Architects must not take part in the above competition because the conditions are not in accordance with the published Regulations of the Royal Institute for Architectural Competitions.

Members' Column

MESSRS. SCORER, GAMBLE AND CO.

Mr. Henry G. Gamble [*F.*] of Bank Street Chambers, Lincoln, has taken into Partnership Mr. R. Neville Barker and Mr. Philip W. Birkett [*A.*]. The practice will still be carried on at the same address under the title of Scorer, Gamble and Co.

MR. CLAUDE W. FERRIER [*F.*]

Mr. Claude W. Ferrier [*F.*] announces that in future his practice will be carried on in conjunction with that of Mr. William B. Binnie [*F.*] at 4 Pickering Place, St. James's Street, S.W.1. Telephone: Gerrard 5300.

CHANGE OF ADDRESS.

Mr. W. H. Ansell [*F.*] has changed his office address to 59 Doughty Street, W.C.1.

Mr. Herbert Bryant [*F.*] will transfer his offices to 22 Cumberland Place, Southampton, on and after 2nd January 1928. Telephone: 2781 Southampton.

Mr. Frank Osler [*A.*] has changed his address to 2 Featherstone Buildings, High Holborn, W.C.2.

PARTNERSHIP WANTED.

F.R.I.B.A. (42), with wide London experience and having small connection in large suburban town near London, wishes to join a firm of architects of good standing, with a view to Partnership. Can place small capital if required.—Apply Box No. 2517, c/o The Secretary R.I.B.A., 9 Conduit Street, London, W.1.

SITUATION VACANT.

London Architect [*F.*] is open to take pupil or advanced student into his office immediately for practical experience in town work of interest and educational value.—Apply Box 1297, c/o The Secretary, R.I.B.A., 9 Conduit Street, London, W.1.

OFFICE ACCOMMODATION WANTED.

Fellow of the Institute desires to meet another architect with a view to sharing office accommodation and running expenses.—Apply Box 7474, c/o The Secretary R.I.B.A., 9 Conduit Street, London, W.1.

Associate with small practice requires office accommodation in neighbourhood of Charing Cross or Victoria. Terms must be moderate. Particulars to Box 1512, c/o The Secretary R.I.B.A., 9 Conduit Street, London, W.1.

OFFICE ACCOMMODATION.

Fellow has a good light room near Portman Square. Electric fire, attendance, slight assistance, etc., if wanted.—Box 3097, c/o The Secretary R.I.B.A., 9 Conduit Street, London, W.1.

A.R.I.B.A. offers share of office accommodation with services of shorthand typist, Gray's Inn district. Large well lighted office recently redecorated.—Reply Box 3219, c/o The Secretary R.I.B.A., 9 Conduit Street, London, W.1.

PRACTICE FOR DISPOSAL.

Member desires to dispose of practice in South Wales colliery town, which would suit young practitioner. Excellent commissions in hand, and accountants' figures available.—Apply in first instance, Box 7777, c/o The Secretary R.I.B.A., 9 Conduit Street, London, W.1.

FOR SALE.

By a Member, Special pitch-pine fitment, for plans, papers and correspondence, large and well made and a very useful piece, £7 10s. —Apply Box 1012, c/o The SecretaryR.I.B.A., 9, Conduit Street, London, W.1.

Member has for disposal some unbound volumes of the Journal from 1912. Offers should be addressed to Box 1912, c/o The Secretary R.I.B.A., 9 Conduit Street, London, W.1.

Minutes V and VI

SESSION 1927–28.

At the Fourth General Meeting (Ordinary) of the Session 1927–28, held on Monday, 19 December 1927, at 8 p.m., Mr. Walter Tapper, A.R.A., President, in the Chair.

The attendance book was signed by 14 Fellows (including 4 Members of the Council), 17 Associates (including 1 Member of the Council), 3 Licentiates (including 1 Member of the Council), and several visitors.

The Minutes of the meeting held on Monday, 5 December 1927, having been published in the JOURNAL, were taken as read, confirmed and signed as correct.

The Hon. Secretary announced the decease of :—

Mr. James Fasnacht, elected Fellow 1906.
Mr. Frank James Fisher, elected Fellow 1926.
Mr. Wilfrid Tom Campsall, elected Licentiate 1911.
Mr. David Matheson Cuthbert, elected Licentiate 1911.
Mr. John Jackson, transferred to Licentiateship 1925.
Mr. John Edward Rowlands, elected Licentiate 1911.
Mr. Arthur James Slater, transferred to Licentiateship 1925.
Mr. James Orange, retired Member of The Society of Architects.

And it was *Resolved* that the regrets of the Institute for their loss be entered on the Minutes and that a message of sympathy and condolence be conveyed to their relatives.

The following member attending for the first time since his election was formally admitted by the President :—

Mr. D. A. G. Smith [*A.*].

Dr. Reginald Miller, F.R.C.P., and Mr. J. Ernest Franck [*F.*] having read papers on " Some Medical Aspects of Damp in Dwellings," a discussion ensued, and on the motion of Mr. H. D. Searles-Wood [*F.*], seconded by Mr. Alan E. Munby [*F.*], a vote of thanks was passed to Dr. Miller and Mr. Franck by acclamation, and was briefly responded to.

The proceedings closed at 10.40 p.m.

At a Special General Meeting held on Monday, 19 December 1927, immediately following the Ordinary General Meeting above recorded, and similarly constituted with the exception of the guests, who had been requested to retire, the President announced that the meeting had been summoned for the purpose of confirming the following resolutions passed at the Business General Meeting held on 5 December 1927, for the amendment of Bye-laws 66 and 85 :—

That Bye-law 66 be amended as follows, and the necessary steps be taken to obtain the sanction of the Privy Council to such amendment to Bye-law 66 as is required to give effect to this resolution :—

Omit the words " the first " between the words " on " and " Monday " and insert " a " ; and insert the words " to be fixed by the Council at the commencement of each Session " after the word " May."

That Bye-law 85 be amended as follows, and the necessary steps be taken to obtain the sanction of the Privy Council to such amendment to Bye-law 85 as is required to give effect to this resolution :—

Omit the words " in respect of and for his subscription thereto " between the words " Society " and " provided."

The confirming resolution was moved from the chair and passed by a unanimous vote.

The proceedings closed at 10.45 p.m.

It is desired to point out that the opinions of writers of articles and letters which appear in the R.I.B.A. JOURNAL must be taken as the individual opinions of their authors and not as representative expression of the Institute.

Members sending remittances by postal order for subscriptions or Institute publications are warned of the necessity of complying with Post Office Regulations with regard to this method of payment. Postal orders should be made payable to the Secretary R.I.B.A., and crossed.

Arrangements have been made for the supply of the R.I.B.A. JOURNAL (post free) to members of the Allied Societies who are not members of the R.I.B.A. at a specially reduced subscription of 12*s.* a year. Those who wish to take advantage of this arrangement are requested to send their names to the Secretary R.I.B.A., 9 Conduit Street, W.1.

R.I.B.A. JOURNAL

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